Unrivalled Integrated Security and Access Control

Product Catalogue

2009

www.innerrange.com

inner range

Intelligent Security Solutions

www.innerrange.com

inner range

Intelligent Security Solutions

Who is Inner Range?

Inner Range are world leaders in the design and manufacture of state of the art security solutions.

Since our inception in 1988, over 80,000 Inner Range systems have been installed in over thirty countries.

Amidst impressive growth, Inner Range has remained focused on what it does best: the integration of intruder alarm and access control functionality.

Consumers are increasingly demanding integrated solutions in the implementation of building management technology. Inner Range equipment delivers an impressive mix of power and flexibility which consistently out performs its more expensive competitors.

Consultants who specify our products, technicians who install them and consumers who use them all benefit on a daily basis from the pursuit of excellence that is the hallmark of Inner Range system design.

Cost effective scalability, programming flexibility, powerful logic and third party compatibility are just some of the compelling reasons to choose an Inner Range solution.

Facts at a glance:

- World leader in integrated intruder, access control and building automation systems
- Established 1988
- More than 80,000 systems sold worldwide in over 30 countries
- Head Office in Melbourne, Australia
- Inner Range Europe office based in Reading, UK

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Inner Range Accredited Dealer Program

Inner Range strongly recommends that all Concept 4000 systems be installed and maintained by factory certified technicians in the employ of Inner Range Accredited Dealers. Accredited Dealers receive more favourable pricing on Inner Range products and should be in a position to offer competitive advantages. For a choice of Accredited Dealers in your area refer to *http://www.innerrange.com/HowToBuy.cfm* or for more information see details on page 55 of this catalogue.

CONCEPT 4000
Insight

The Concept 4000 hardware platform, combined with the Insight software suite, delivers unrivalled integrated security and access control.

Seamless Integration of Intruder Alarm and Access Control

Wonderfully powerful as either a state of the art intruder alarm system, or a fully featured access control system, our solution is without peer when the specification calls for seamless integration of these two disciplines.

As an intruder system it sets a new benchmark. Thousands of areas, thousands of inputs and outputs, powerful macro-logic, TCP/IP connectivity and an array of flexible reporting options.

As an access system it offers all of the leading product functionality that you would expect in a state of the art enterprise level solution. Hundreds of thousands of users, multiple card formats, lift control, and module redundancy that will maintain full functionality, even in the event of complete server failure.

A truly worthy contender in either an intruder or access only role, but it is through the integration of these two applications that the system delivers its compelling advantages: Reduced equipment cost, lower installation and maintenance costs, simpler and more practical system management, complementary functionality to name just a few.

Concept hardware coupled with Insight software delivers an unrivalled and truly unique, integrated solution.

Panels can be seamlessly linked to deliver centralised multi-site management with unlimited dimensions.

Massive Scalability

The Concept 4000 hardware platform begins as a single control panel with 16 inputs.

The flexible, modular design allows the expansion of a single control panel to a network of hundreds of modules, 50,000 users, 2000 inputs, 250 areas and 250 doors.

Insight software can then seamlessly link multiple control panels together to create a system of almost infinite dimensions: over 1,000,000 users, across thousands of inputs, areas, doors and outputs.

This scalable philosophy gives a cost effective solution that can grow with your needs yet is unconstrained by design limits.

The modular design of the Concept 4000 hardware platform ensures that you only pay for what you need, when you need it.

Powerful Programming Flexibility

Experienced security professionals understand that every site has different needs and requirements. Concept 4000 and Insight have developed a well deserved reputation as the system that can always deliver - even on the most fastidious customer requirements.

Concept 4000 and Insight offer an impressive array of group and list programing options that allow the detailed manipulation of all user and system functionality. Powerful custom logic can additionally be implemented across hardware modules and all levels of the programming to deliver solutions only dreamed of in other single discipline product offerings. Arguably the most impressive characteristic of our offering is that all of this power is available at hardware level and will perform flawlessly even in the event of server failure.

Unbeatable access, security and communications functionality to satisfy the most stringent security requirements.

Extensive Third Party Integration

The Concept 4000 / Insight solution offers an extensive range of high level integration options to many other leading vendors in areas such as building management, automation, lift control, ERP and payroll systems.
The Concept 4000 control module hardware has the ability to interface with up to four independent systems simultaneously. The new automation coms task fucntionality now offers an open bi-directional protocol to facilitate third party integration at hardware level. Additionally, the Insight software supports various proprietary interfaces and a customisable COM interface. For quick, one-off applications we offer a keystroke emulator LAN module that accepts ASCII commands.

Breathtaking high-level video integration finally providing intruder alarm, access control and CCTV in one 'state of the art' solution.

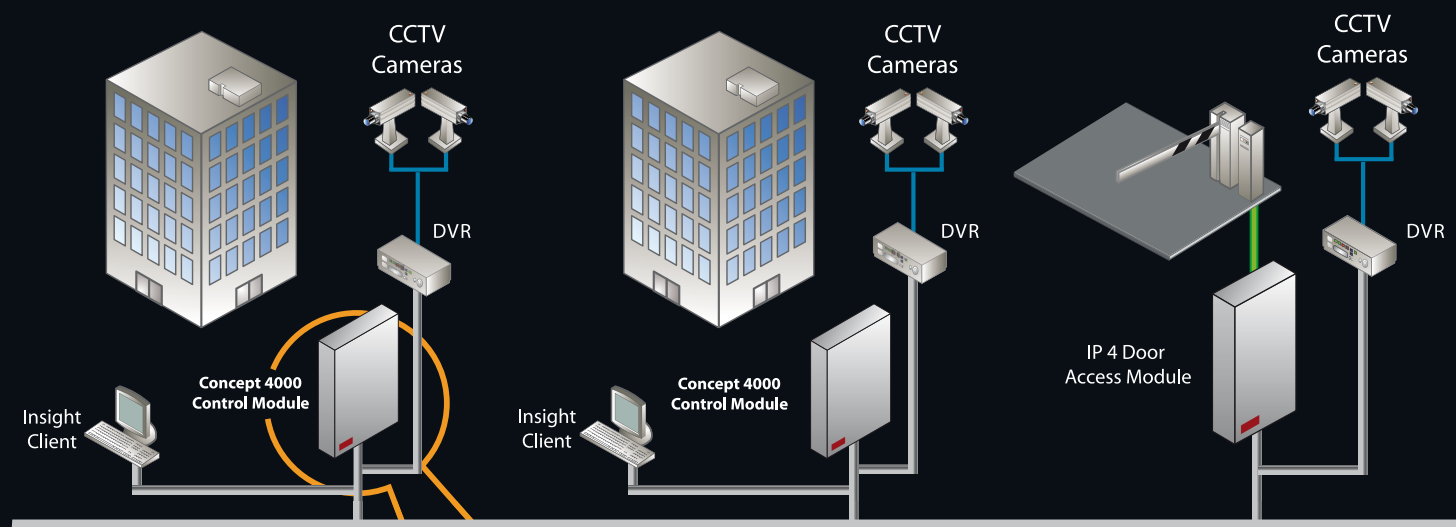
Sophisticated Multi-site Architecture

Using our Insight management software it is possible to bring an almost unlimited number of Concept 4000 sites together into one virtual system for global administration. Users can be added and deleted from the system, security levels changed, and user access to doors and security areas modified with changes being dynamically updated to sites anywhere in the world. Interactive, multi-layer graphical maps can show the status of the system as a whole, with the ability to drill down to an individual room in an installation and view live activity.

Breathtaking CCTV and DVR Integration

With Insight software, high-level video integration is now a reality.
The interface supports a large number of leading CCTV vendors.
Finally, intruder alarm, access control and CCTV are now combined in one, "state of the art" solution.

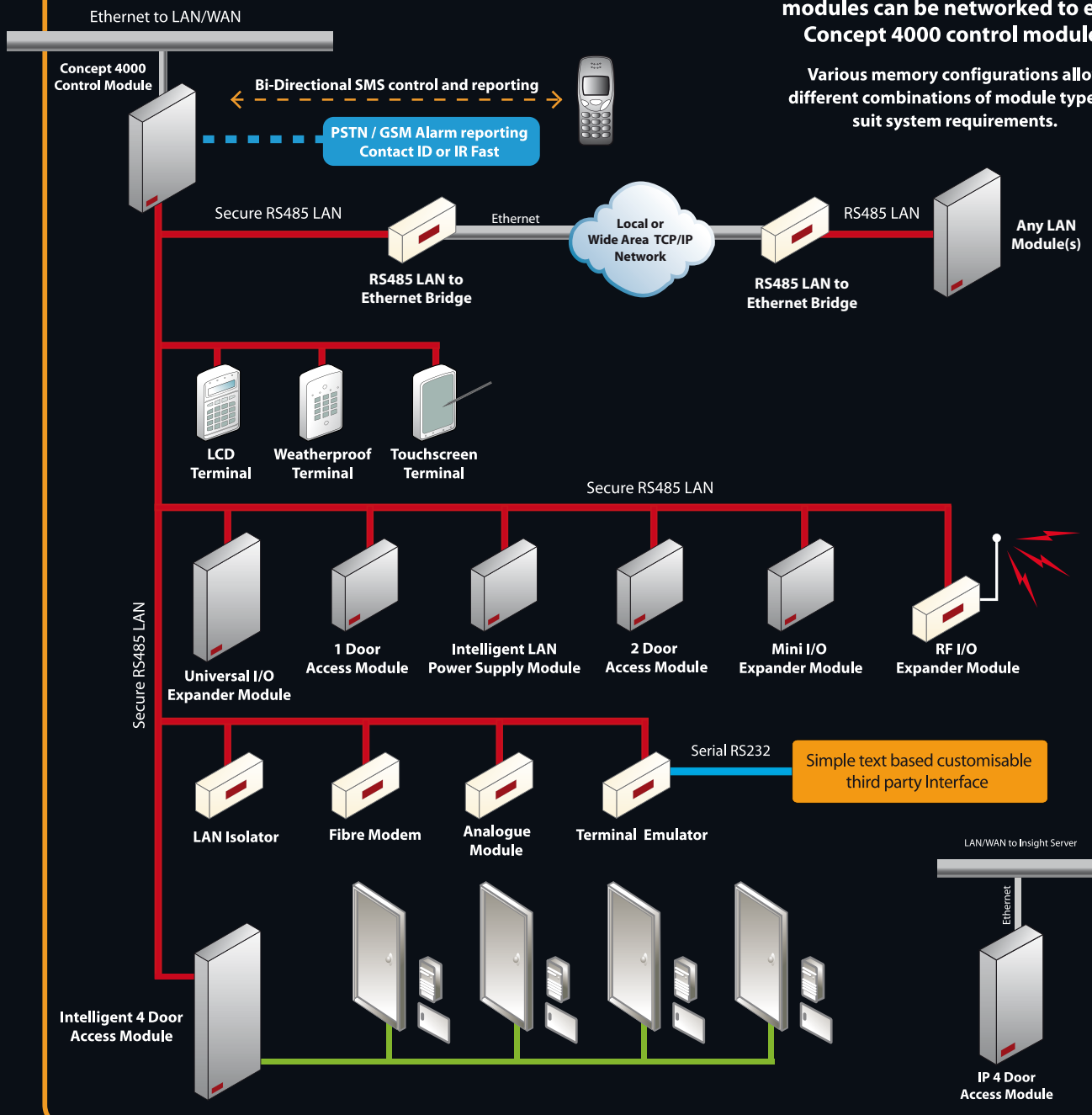
System Architecture

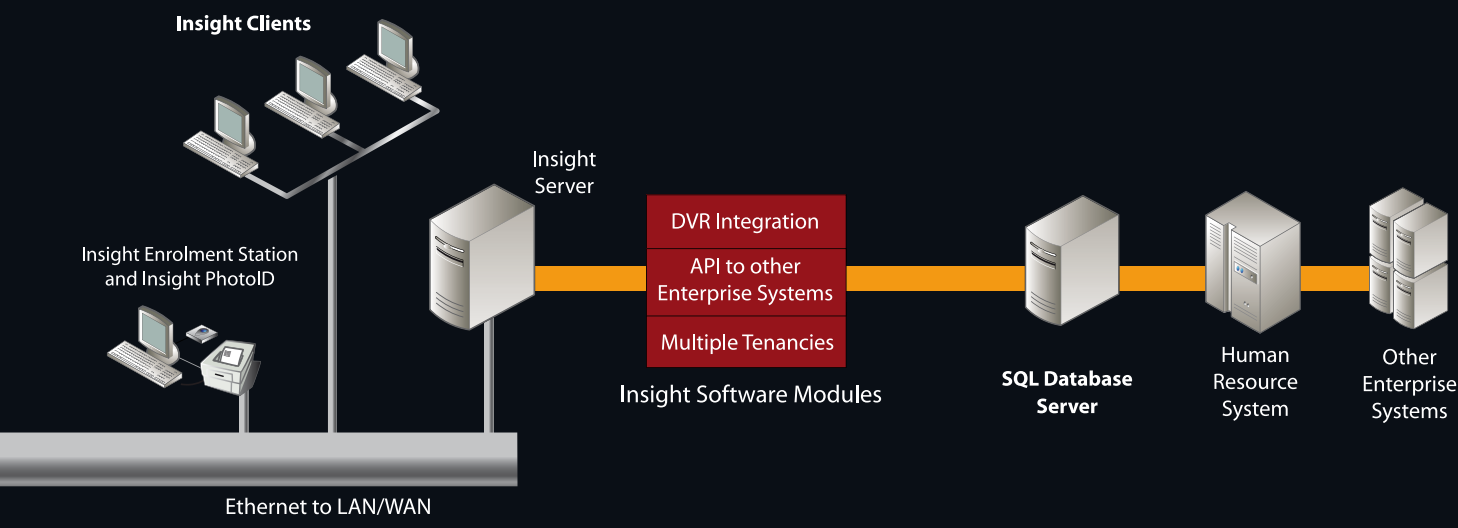


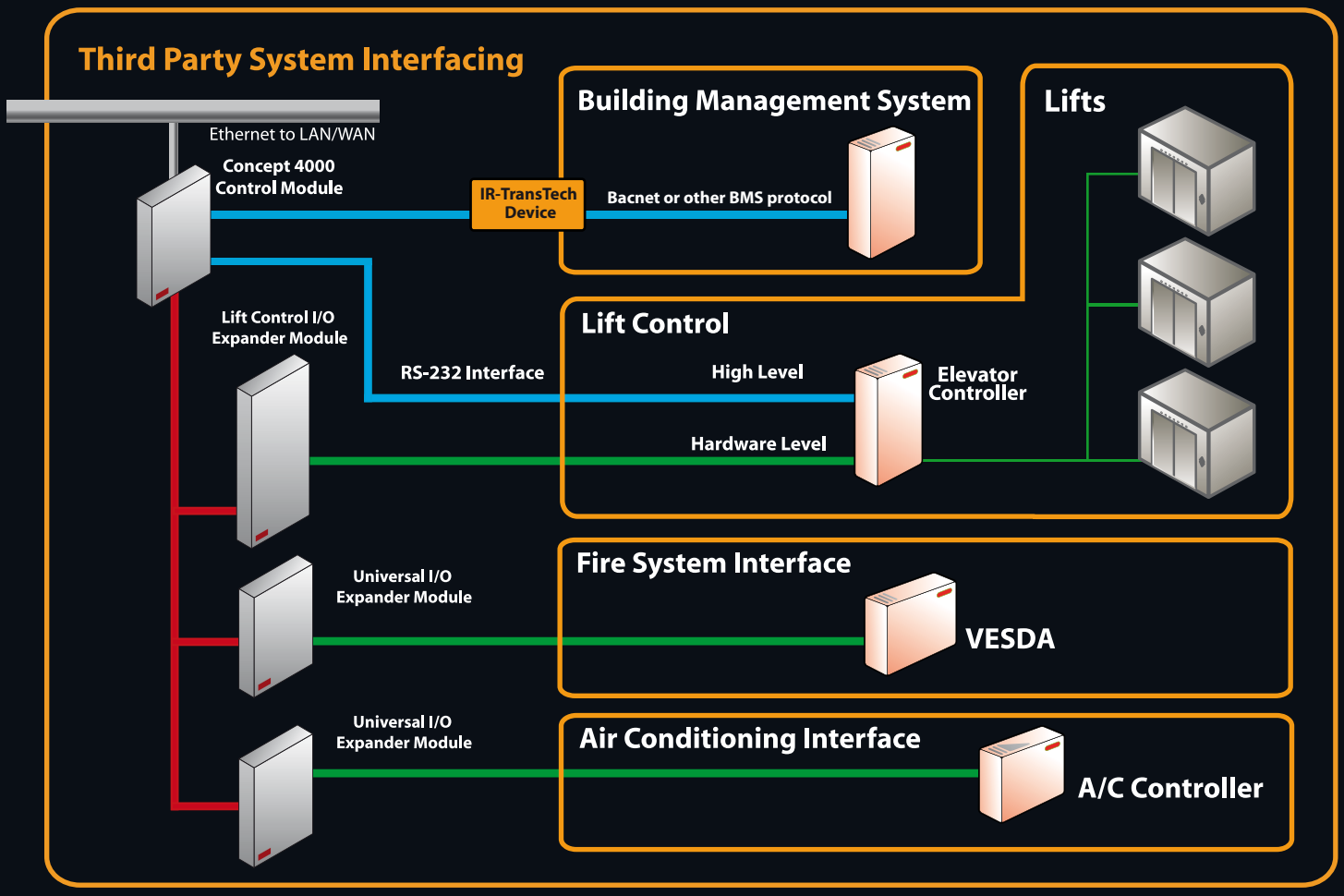
Concept 4000 Integrated Security / Access Hardware Platform

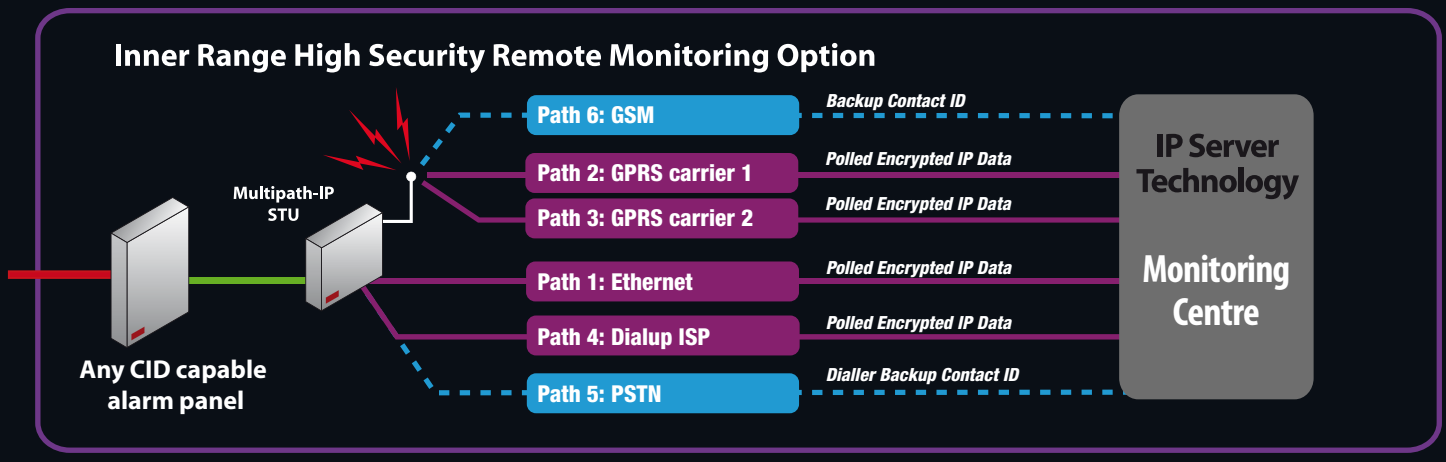
Up to 250 Separate RS485 Hardware modules can be networked to each Concept 4000 control module.

Various memory configurations allow different combinations of module types to suit system requirements.




Insight Clients
Insight Server
Insight Enrolment Station and Insight PhotoID
DVR Integration
API to other Enterprise Systems
Multiple Tenancies
Insight Software Modules
SQL Database Server
Human Resource System
Other Enterprise Systems
Ethernet to LAN/WAN


Third Party System Interfacing
Ethernet to LAN/WAN
Concept 4000 Control Module
IR-TransTech Device
Bacnet or other BMS protocol
Building Management System
Lifts
Lift Control I/O Expander Module
RS-232 Interface
Lift Control
High Level
Elevator Controller
Hardware Level
Universal I/O Expander Module
Fire System Interface
VESDA
Universal I/O Expander Module
Air Conditioning Interface
A/C Controller


Inner Range High Security Remote Monitoring Option
Multipath-IP STU
Any CID capable alarm panel
Path 6: GSM
Backup Contact ID
Path 2: GPRS carrier 1
Polled Encrypted IP Data
Path 3: GPRS carrier 2
Polled Encrypted IP Data
Path 1: Ethernet
Polled Encrypted IP Data
Path 4: Dialup ISP
Polled Encrypted IP Data
Path 5: PSTN
Dialler Backup Contact ID
IP Server Technology
Monitoring Centre

Insight Professional

Management Software for Concept 4000 Systems

Insight Professional is a “best in class” system management software solution providing customers with user friendly control and management of multiple Concept 4000 hardware platforms.

User Friendly Programming and Control

Operators can edit programming of items such as users, doors and lifts within multiple Concept 4000 panels.

Programming features include:

- User friendly programming screens
- Control of doors, areas, lifts and auxiliary outputs etc.
- Powerful search and cross-referencing tools
- Hyperlinks to move between related programming screens

Robust Architecture

Insight is built on a robust technology platform including:

- Multi-panel, multi-workstation (multi-client)
- MS SQL server database - ODBC compatible
- Rijndael AES 128-bit encryption
- Proprietary Insight communications protocol developed specifically for IP based communications

Seamless Multi-Site Management

Sites can be managed individually or an almost unlimited number of Concept 4000 sites can be managed as one seamless system with the intuitive Insight software suite. Global user management means that users can be added and deleted from the system, their security levels changed, and their access to doors and security areas modified with these changes being immediately updated to sites around the globe.

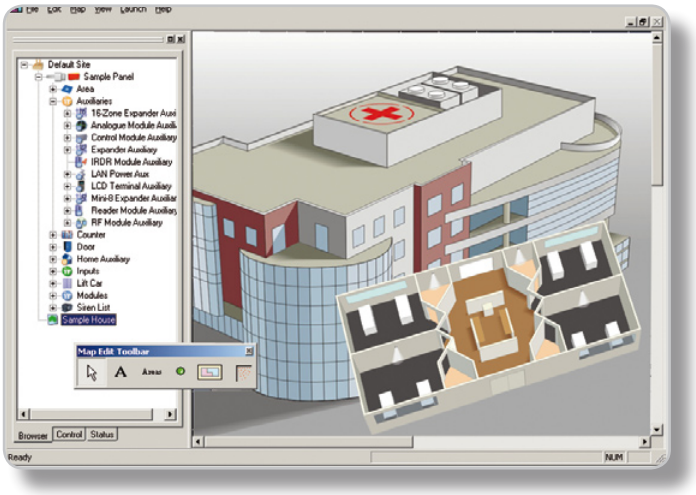
Supported Platforms:
Microsoft Windows XP Pro
Microsoft Windows 2003 Server
Microsoft Windows Vista (Businessor Ultimate)
Minimum Hardware Requirements:
Intel® Pentium® 4 2GHz
512Mb RAM (1GB with Windows Vista)
CD-ROM
500Mb free hard disk space*
XVGA monitor at 1024 x 768, 24 bit colour
Mouse or similar device
Recommended Hardware:
Intel® Core 2 Duo (or quad core) processor @ 2.4GHz
3Gb RAM
Gigabit Ethernet adaptor
DVD reader / writer
5Gb free hard disk space*
22” WSXGA+ (1680x1050) monitor, 24 bit colour
** Insight database maximum 4Gb. Larger sizes are possible if database hosted on SQL Server.*

Rich Floorplan View

Insight’s Schematic module provides the facility to monitor the status of field hardware and site security on an interactive, multi-layered, graphical representation.

Some of the highlights of the Schematic module are:

- Import maps in a variety of formats
- Create drill-downs and navigational hyperlinks
- Automatically display a schematic in response to a programmed event
- Mimic control panel functionality
- Drag and drop items on to maps
- View the real-time status of inputs, areas, doors and auxiliaries
- Customisable icon library



Comprehensive Reporting

A range of customisable reports are available in Insight, giving the user great flexibility to generate reports for all requirements. Reports are easily exported to other applications.

Some examples of popular reports are:

- User access through a door
- Alarms in an area
- User arming/disarming of an area

Further flexibility is afforded by the Advanced Reporting Module, which adds:

- Muster report
- Time on site report
- Door access reports
- Extended user report
- Report designer tool allowing total control over report output

Flexible Review, Alarm and Event Management

Insight automatically maintains a merged log of alarm and system events generated by all Concept 4000 modules on the network. Operator actions within Insight are also logged.

Certain Review events can be forwarded as pager, SMS, email or Internet messages

The review module also includes:

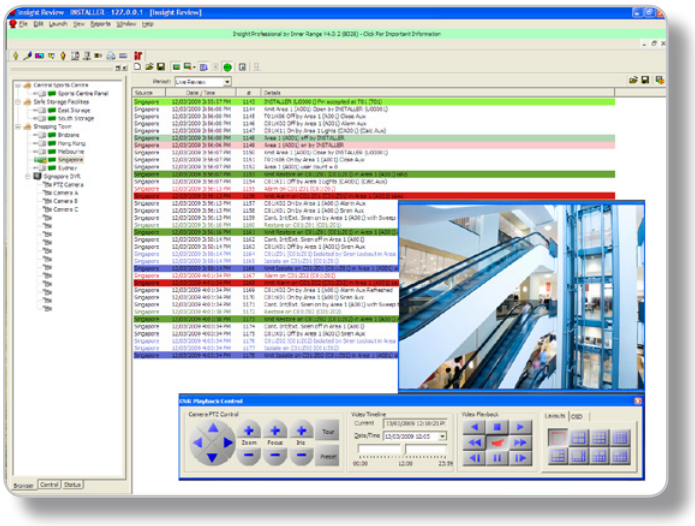
- Unlimited customisable review filters
- Unlimited concurrent review windows
- Comprehensive event triggering
- Customisable alarm events and alarm procedures (including font and colour control)
- Operator response processing including systemwide acknowledgement

The optional Insight Communicator Module automatically processes selected types of Review events and sends email, pager and SMS messages.

Granular Operator Permissions

Insight gives the system administrator unprecedented control over an operators' system permissions.

- Assignment of permissions via operator types
- Assign more than one operator type to each operator
- Flexible permissions: (view, inspect, change, create, delete, control, print, export and set)



An unlimited number of Concept 4000 sites can be managed as one seamless system with the intuitive Insight software.

Ordering options

994402 Insight Professional

Insight Professional Components

Insight Professional

Core package providing site management, panel programming, event review, floor plan functionality, basic reporting, operator and user administration.

Optional Modules

- DVR Integration Module
- Advanced Reporting Module
- Photo-ID Module: Adds card design/print support
- COM Interface
- Dynamic User Import Module
- Card Pool
- Insight Communicator

Installer's Software Tools

Insight Lite

Insight Lite provides an intuitive yet powerful upload-download and programming interface, allowing technicians to easily maintain hundreds of Concept hardware installations.

Insight Lite is provided free of charge to Inner Range Certified Technicians for the purpose of assisting in the programming of Concept 4000 systems. It allows full database editing but does not include the on-site system management utilities and modules that are included as part of the Insight Professional version. The availability of Insight Lite as a utility for technicians means that they now need only learn one software application instead of many.

Insight Enrolment Station

The Insight Card Enrolment Station is designed to conveniently allow Cards to be remotely enrolled in an Inner Range Concept 4000 system at a PC using the Insight software. Administration of large numbers of card users with Concept 4000 systems is greatly simplified with this addition to the product range.

This product is particuly uesful for enrolling cards with proprietary formats where the data can be captured as a unique identifier without necessarily interpreting or decoding it. eg. where site code data cannot be derived from the card.

The Enrolment Station is connected to the PC through the serial port or serial to USB converter.

All of the Wiegand formats available in the Concept 4000 hardware platform are supported utilising either Direct Entry or Site Code mode.

Model options include a version fitted with the HID Proxpoint

Reader, which is compatible with Wiegand format cards and a version with no reader fitted. The latter is useful in systems not using HID proximity cards and allows the Installer to connect a reader to match those used in the existing hardware installation.

SPECIFICATIONS

Electrical	
Input Voltage	11-14VDC
Operational Current	42mA (PCB only)
	95mA (with HID Proxpoint Reader fitted)
Fuse Protection	500mA reader power fuse
Outputs	
Serial Ports	Serial RS232 to PC (DB9)

Ordering Options

994500BlankAU

Insight Card Enrolment Station – No reader fitted

994500WiegAU

Insight Card Enrolment Station – HID Proxpoint Reader fitted

Insight Card Pool Module

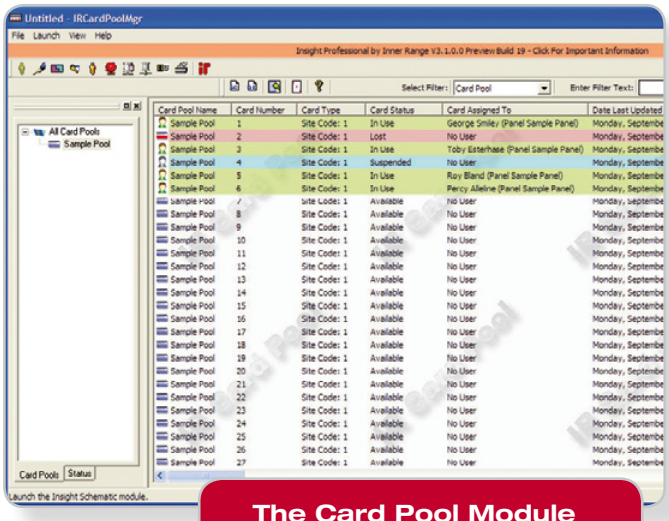
This module streamlines the administration of access control cards across an organisation. Operators can create pools of cards and assign them to users, return cards to a pool (for example, when a visitor signs out, or a contractor finishes their tenure) as well as, where necessary, marking cards as suspended or lost.

When creating/editing users within Insight Edit (and Card Pool is installed), operators can now simply assign the next available card from an already created card pool.

The panel scan option in this module makes it easy to migrate to the Card Pool model from systems with cards already programmed in them by creating card pools automatically.

Ordering Options

994412 Insight Card Pool Module



The Card Pool Module and the Insight Enrolment Station are perfect partners for hassle-free card management!

Advanced Reporting Module

The Advanced Reporting Module greatly enhances the reporting capabilities of any Insight/Concept 4000 system. The report categories available in this optional software module include:

Time on Site Report

This report calculates, per employee, the amount of time spent “on site” and then presents this information in an easy to read report which can be exported to a payroll package.

Muster Report

This report allows an operator to designate an area in the system as a muster point then gives the last time that each user accessed that area.

Door Access Reports

This report shows when doors in the system have been accessed and by whom.

Extended User Report

This report shows the name, company, department and photograph of a specified set of users. Custom Data Fields can be added by basing a new report on this template.

Review Reports

These reports are based on data in the System Review Log.

Card Pool Reports

These reports are extracted from the Card Pool data in the System.

User Activity Reports

These reports are a combination of user information in the database and the user’s associated Review Log activity over a specified time period. These can include exception reports.

Entry Exit Reports

These reports are a combination of user information in the database and the user’s associated Review Log activity presented on a daily basis with selectable filters to extract such items as late entry, early exits and non attendance.

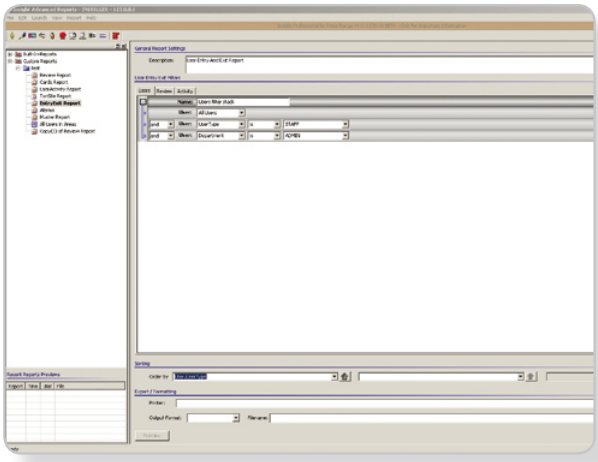
Virtual User Reports

This report correlates Virtual Users across all Control Modules in the System.

Privilege Reports

User/Entity and Entity/User reports which summarise user access to entities such as doors, lifts and security areas

All reports in The Advanced Reporting Module incorporate elements of our flexible report generator and report designer tool. Starting with a report category the operator can apply an extensive array of SQL filtering to the report and generate a more targeted data set output. The operator can then use the integrated Lists and Labels reporting tool to design and tailor a customized report with powerful flexibility, even to the extent of importing and including images, logos, charts and graphs.



Ordering Options

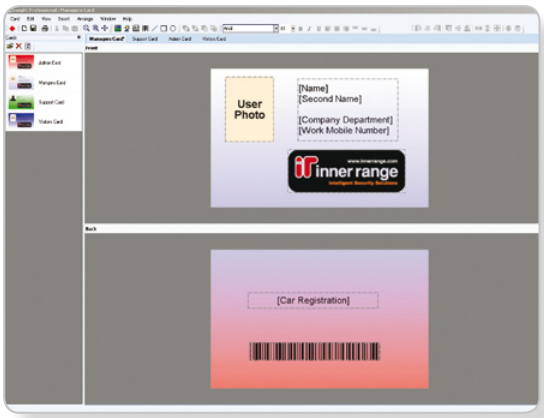
994405 Insight Advanced Reporting Licence

PhotoID Module

Insight PhotoID enables the design and printing of user photo-identification cards. The card designer environment is simple to use and enables the inclusion of background images as well as employee information directly from the Insight database.

- Operators can design custom card templates. Each template may contain:
  - a background image
  - user photograph
  - selected database fields
  - Support for double sided card printing
  - Card printing can be filtered across multiple templates based on user information
  - simple text
- Includes image capture from Windows Image Acquisition (WIA) compatible devices (i.e. digital cameras, web cams etc.)
- Can be used from multiple Insight client workstations with only a single PhotoID license, making it an extremely cost effective card printing solution
- Print cards individually or in batches

Once the card templates are configured, individual user cards may also be printed directly from the user programming screen, without opening the Insight PhotoID module



Ordering Options

994406 Insight PhotoID Licence

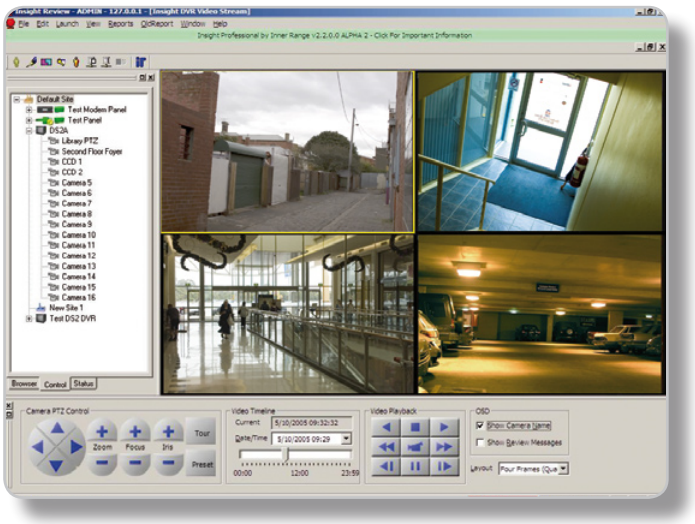
DVR Integration Module

Insight DVR Integration allows operators to control Digital Video Recorders and cameras within Insight, including the ability to view live and historical video feeds.

- Attach DVRs and cameras to Insight
- View live and historical video feeds directly in the Insight workspace
- Remotely control PTZ (Pan/Tilt/Zoom) cameras
- Access recorded video information based on review events
- Switch cameras and video feeds based on custom real-time triggers
- Send model-specific commands to a DVR or camera
- Place cameras and camera presets directly onto floor plans in Insight Schematic
- Support for multiple DVR vendors within a single Insight system
- Create a custom matrix with cameras connected to DVRs from multiple vendors.
- Control DVRs from multiple vendors with the one graphical user interface.
- Link cameras to almost any object in the Insight database (doors, inputs, users etc).

Many popular DVR brands are currently supported with more being added continually.

DEDICATED MICROS, PACOM, MARCH, MITSUBISHI ELECTRIC SECURITY PRODUCTS, Dallmeier, Panasonic



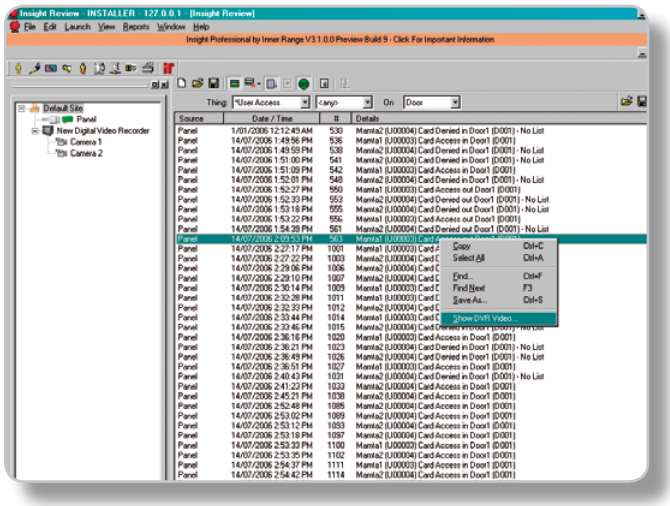
Ordering Options

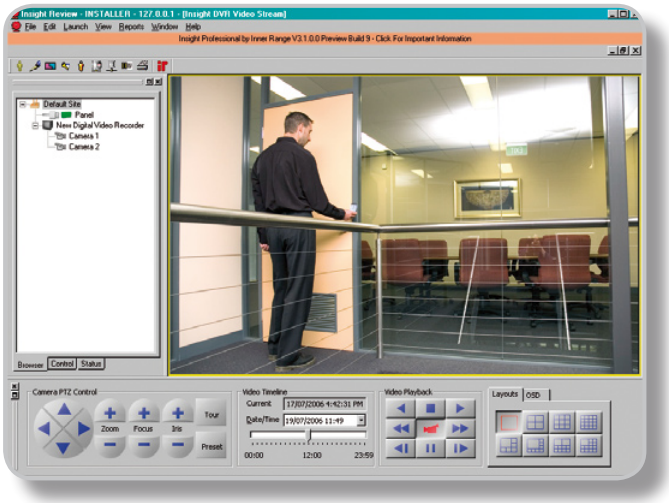
994410

Insight DVR Integration Module with support for 30 cameras

994411

Insight DVR Integration. Additional 10 Cameras



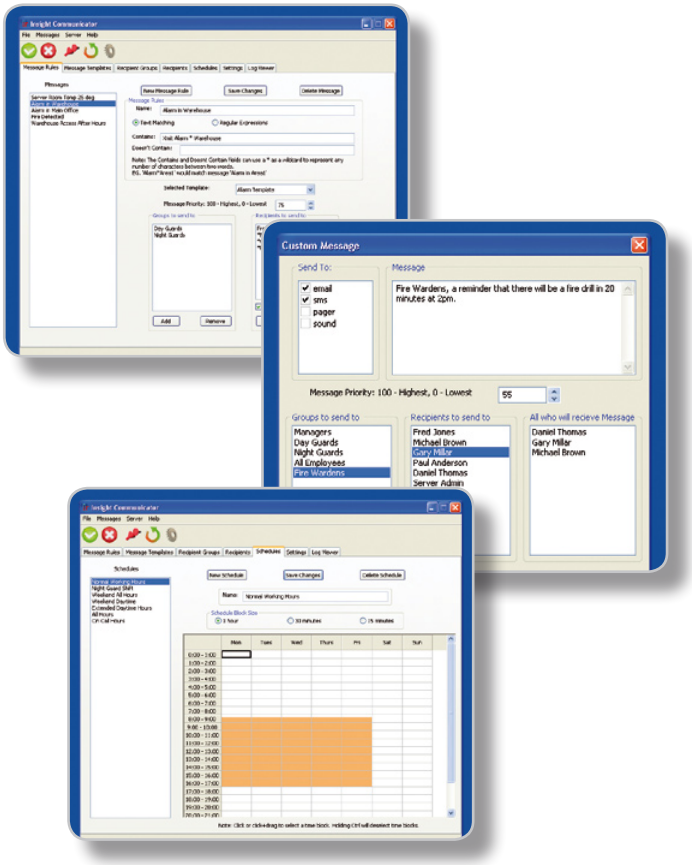


Insight Communicator

With this handy option, individuals and groups can receive pager, SMS and email messages that are automatically sent in response to Insight Review events.

Insight Communicator is highly configurable:
Messages can be prioritised, applied to a particular template and sent based on **rules.** Simple text matching and/or regular expressions can be used. For example, Review events containing the word, “Warehouse” might only be sent to the Warehouse Manager and the Duty Guards, whereas Review events containing the word, “Fire” might be sent to All Managers and the Duty Guards and so forth.
Templates can determine whether a message is sent to a Pager, SMS or by email, or any combination of these media, as well as set the format and content of this message for each medium.
Details can be tailored to each **Recipient**. A Recipient can be a person or a device such as a pager or a computer.
For each recipient, the operator can configure which messages are received, how they are received (SMS, Pager, email) and when they are received.

Fully customisable **Schedules** can be created and used to control when messages are received. For instance, emails for a given recipient might be set to be received at all hours, as messages occur, whereas Pager or SMS messages for the recipient might be limited to certain hours of the day.
Insight Communicator can also be used to send, “one-off”, **Custom Messages** where required.



Ordering Options

994416 Insight Communicator

Dynamic User Import Module

This module allows automatic user programming of Concept Control Modules based on the output of other software.

The Dynamic User Import Module suits any application that requires card or PIN numbers to be created automatically under the direction of an external program. For example:

- **Hotel PMS (Property Management Systems)**: adding users when a guest checks in, and expiring them when they check out. Only access to their floor and room is permitted.
- **ERP/HR/Payroll Systems**: adding users when they are added to the resources database, and removing them when employment is terminated.
- **Student Databases**: adding students when they are enrolled at an institution, and removing them when study is completed.
- **Visitor Management**: adding temporary users when they are visitors on a site, and removing them when the visit ends.

Ordering Options

994409 Dynamic User Import Module

COM Interface Module

The COM Interface Module enables software developers to write software that can connect to an Insight Professional Server and query the Areas, Doors, Users and User Types within each Concept Control Module. It also provides an interface for receiving live or archival review from Insight Server.

Example applications:

- Web tools could respond to security and alarm messages from Insight
- Logistics software could count users entering and leaving an area in real time
- Messaging software could respond to security events in the field in real time
- Tracking software could tag the location of personnel on a site map

Ordering Options

994408 Insight COM Interface Module (Read Only)
994417 Insight COM Interface Module (Write & Control)

Insight Express

Low Cost Basic Management Software for Concept 4000 Security / Access Systems

Insight Express is a budget friendly software solution for small business enterprises . It provides one connection to a Concept 3000/4000 control panel and can be used on a single computer workstation.
Full operator passwords and permissions are provided for added security and Insight Express can also be upgraded to Insight Professional when further expansion is required.

User Friendly Programming and Control

Operators can edit programming of items such as users, doors and lifts within a single Concept 4000 panel.
Programming features include:

- User friendly programming screens
- Easily add, remove & edit access card holders and PIN users in a single Concept system.
- Hyperlinks to move between related programming screens
- Easily view or filter the system event log and save filter preferences

Granular Operator Permissions

Insight Express gives the system administrator unprecedented control over an operators' system permissions.

- Assignment of permissions via operator types
- Assign more than one operator type to each operator
- Flexible permissions: (view, inspect, change, create, delete, control, print, export and set)

Robust Architecture

Insight Express is built on a robust technology platform including:

- MS SQL server database - ODBC compatible
- Rijndael AES 128-bit encryption
- Proprietary Insight communications protocol developed specifically for IP based communications

Supported Platforms:

Microsoft Windows XP Pro
Microsoft Windows 2003 Server
Microsoft Windows Vista (Business or Ultimate)

Minimum Hardware Requirements:

Intel® Pentium® 4 2GHz
512Mb RAM (1GB with Windows Vista)
CD-ROM
500Mb free hard disk space*
XVGA monitor at 1024 x 768, 24 bit colour
Mouse or similar device

Recommended Hardware:

Intel® Core 2 Duo (or quad core) processor @ 2.4GHz
3Gb RAM
Gigabit Ethernet adaptor
DVD reader / writer
5Gb free hard disk space*
22" WSXGA+ (1680x1050) monitor, 24 bit colour

** Insight database maximum 4Gb.*
Larger sizes are possible if database hosted on SQL Server.

Ordering Options

994402XPR
Insight Express

994402UPG
Insight Express
Upgrade to Insight Pro

Concept 4000

Unrivalled Security Power

Each Concept 4000 controller offers powerful intruder alarm functionality:

- Advanced multi-tenancy across 250 areas
- Support for special duress, panic, hold-up and suspicion alarm functions
- Pulse counting and other customised input processing
- Support for a wide range of wireless devices
- Look-ahead reporting feature prioritises new alarms to over-ride multi-break reporting
- Walk test zone inputs
- Automatic daylight saving adjustment
- Telephone line, power supply, battery and fuse monitoring

Third Party Connectivity

The Concept 4000 hardware platform works seamlessly at hardware level with other powerful automation technologies such as:

- AMX Control and Automation Systems
- Clipsal C-Bus Energy Management
- Crestron Control and Automation systems
- Dynalite Intelligent Lighting
- HPM iCONTROL home automation
- Otis and Kone lift control

Third parties can also write their own custom interface using either our automation protocol or the ASCI based terminal interface module.

Enterprise Level Access Control

Concept 4000 caters for a complete range of installations; single door systems through to global multi-site applications.

- Fully intelligent four door access modules provide full offline operation
- Cost effective two door access modules with offline cache functionality
- Fully featured lift control with button feedback, destination reporting and high level interface options
- Soft, hard, or timed anti-pass-back and door interlock - functions across any combination of doors in the system
- Dual user and card + PIN functionality
- Monitoring of door forced, DOTL (door open too long), tongue sense and entry / exit buttons
- Free access options via time zones and area status, etc.
- Area On/Off control from a door reader without PIN codes or terminals
- Extended door access times for disabled users
- User counting facilities
- Site code processing of a large range of Wiegand, magnetic stripe and many other formats
- IR-Secure 40 format offering added security and extended range of site codes
- Dual-format readers supporting IR-Secure 40, HID and other formats
- “Illegal card” and “too many PIN attempts” monitoring

A single Concept 4000 panel provides up to 50,000 users, 250 modules, 250 doors and 250 areas

IR-TransTech

Inner Range TransTechnology solutions set a new benchmark in third party connectivity. These solutions empower system designers and integrators with an almost utopian wish list of high-level integration possibilities. Using this technology Concept 4000 systems can now interact effectively with all major building automation and HVAC communication protocols: **Bacnet**, **Bacnet/IP**, **Lonworks**, **EIB** and **Modbus** to name just a few. Lighting and energy management protocols such as **ABB**, **Ademco**, **Honeywell**, **Siemens** and **Andover** can also now be transmitted to and from your Concept 4000 system using these new transparent devices.
Over 150 different protocols are supported.

IR-TransTech modules are factory configurable devices, which sit between the RS-232 port of the Concept 4000 control module and the target system.

These devices translate commands and replies between the two systems creating a seamless dialogue that requires no further ongoing technical input.

Standing quite apart from the comprehensive range of high-level standard integration options already available at the Concept 4000 hardware level; these new factory configurable solutions constitute an exciting addition to the powerful armoury of existing Inner Range solutions.

Orders for these customisable solutions can only be placed via direct consultation with the factory.

Ordering Options

994800 IR-TransTech Connectivity Solution

Concept 4000

Advanced Communications and Security Reporting

Concept 4000 is the industry leader in security communications:

- Powerful IP based communications (Ethernet, dial-up ISP and GPRS)
- A single panel can support up to four simultaneous high level communication interfaces
- Reporting in a variety of formats, including: Contact ID, SIA, IRFast, IP (GPRS, Ethernet), GSM SMS and Securitel
- Advanced backup reporting options
- Reporting to multiple central stations and multiple client codes
- Customisation of Contact ID event codes and point numbers on input reporting

Powerful Automation

In addition to the core intruder alarm and access functionality the Concept 4000 provides powerful automation logic that can be used for a varied range of complementary applications such as lighting control, air conditioning control, equipment monitoring, storage locker management and car park management.

- Customisable macro logic allows flexible event triggering
- Analogue input support (temperature, pressure sensors etc.)
- Event counting to trigger alarms

Versatile Customisation

Concept 4000 hardware allows extensive customisation to precisely address a wide range of end user requirements. Sophisticated operations can be implemented via the large range of programming options and the use of spreadsheet style lists and groups.

Unlimited system dimensions when combined with Insight software

Robust Architecture

- Redundant architecture allows full system operation including system wide macro functionality even in the event of server failure
- Encrypted, intelligent RS485 LAN allows hundreds of modules to conect to a single control module
- Non-volatile, 6500 event buffer at system hardware level

User Friendly Control

Full system control is available to end-users with a few simple key presses:

- Customisable LCD terminal with “help” screens
- Easy to use Touch Screen keypad option.
- Powerful diary functionality allows custom messages
- Keypad control by users of lighting, gates or other automation functionality
- RF key fob support
- SMS and DTMF control of areas and outputs

Concept 4000 Control Module

The Control Module is the foundation of all Concept 4000 hardware systems.

The Concept 4000 Control Module delivers unrivalled security power with its integrated combination of intruder alarm, access control, building automation and security communications features.

The flexible, modular design of the Concept 4000 architecture allows the expansion of a single control module to a network of hundreds of modules, 50,000 users, 2000 inputs, thousands of outputs, 250 areas and 250 doors.

The Control Module comes with 16 zone inputs, 2 outputs, an on board switch mode power supply, LAN port, modem, serial port, siren and relay outputs.

Expansion boards can add an extra eight outputs directly to the Control Module. Further expansion and functionality is realised with the addition of expansion modules which are connected to the Concept 4000 Control Module using a secure, encrypted RS485 LAN.

A flexible platform that can accommodate projects from a domestic installation right up to a multi-faceted high-rise building management system.

Expansion options

- 8 Relay expander board
- 8 auxiliary output expander board
- 1-4 port RS232/Ethernet UARTs

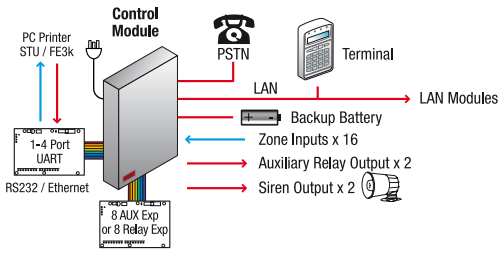
See pages 19-20

Features:

- A single Concept 4000 Control Module presents a cost effective entry level Security and Access Control hardware platform – massively scalable with addition of other hardware modules networked to the Control Module
- Full Security / Intruder alarm functionality
- Complete range of Access Control functionality
- Comprehensive building automation support
- 16 on board zone inputs
- Expandable from 2 on board auxiliary outputs to 10 on board outputs
- Installer selectable memory configurations allow optimisation to meet differing project requirements
- System inputs monitor LAN status, AC power, battery condition, cabinet tamper, siren tamper, door status and communications problems on all modules where applicable
- Inputs can be assigned to multiple areas
- Different processing requirements can be specified for each area to which a particular input is assigned
- On board diagnostic LEDs to assist with commissioning and troubleshooting
- Facilities for automatic and/or manual testing of inputs
- 6500 event, non-volatile review buffer

Connectivity

The control module is the heart of a Concept 4000 system.



Concept 4000 Control Module

Memory Upgrades & Special Options

Part Number	Item
995015	128K Memory Upgrade Chip
995016	512K Memory Upgrade Chip
995017	32K Memory Replacement chips
995015P8	128K Memory Expansion + Programmable Site Code Support
995016P4	512K Memory Expansion + High Level Lift Interface*
993401	Custom Memory Configuration *
995101F&P	Firmware Upgrade (Micro & Firmware)
995101F	Firmware Upgrade (Firmware Only)

Note: * Please consult Inner Range for more details prior to purchasing items marked with an asterisk.

SPECIFICATIONS

Physical

Cabinet Dimensions	460(L) x 358(W) x 85(D) (mm)
PCB Dimensions	200(L) x 200(W) x 45(D) (mm) (Inc. heat sink)
Weight	9.5Kg (in Medium Low Profile Enclosure)
Installation Environment	0°C - 40°C @15% - 85% Relative humidity (non-condensing)
Cabinet Battery Bracket	To suit 12V 7AH Sealed Lead Acid battery

Electrical	Plugpack and PCB versions	Transformer Versions
Mains Input Voltage	240VAC 50Hz	240VAC 50Hz
Mains Input Current	100mA	500mA
Input Voltage to PCB	16-18VAC	16-18VAC
Fuse Protection	Separate fuses for battery, Siren 1, Siren 2, LAN & Detector Power	

Current Consumption

Total Current Limit	1.3A	2.2A
Operational Current (No peripherals connected)	*275mA*	*275mA*
Recommended current allowance for battery charging	*300mA*	*300mA*
Available Current (for detectors, auxiliaries, relays, etc).	*700mA*	*1.2A*

Inputs

Zone Inputs	16
Cabinet Tamper Input	Yes

Outputs

Siren Outputs	2 (Max load: 2 x 8 Ohm, 10 Watt siren speakers)
Outputs (Open Collector)	2 (Expandable to 10 using the 8 Auxiliary Expander board-995055)
Relays	Expandable to 8 with optional Versatile Relay board -995082 - replaces Auxiliaries 3-10

Ordering options

995001AU Concept 4000 (32K) with plugpack in Medium Low Profile Enclosure
995002AU Concept 4000 (128K) with plugpack in Medium Low Profile Enclosure

995001AUPS Concept 4000 (32K) with transformer in Medium Low Profile Enclosure
995002AUPS Concept 4000 (128K) with transformer in Medium Low Profile Enclosure

995001AUPCB&K Concept 4000 (32K) short form kit
995002AUPCB&K Concept 4000 (128K) short form kit

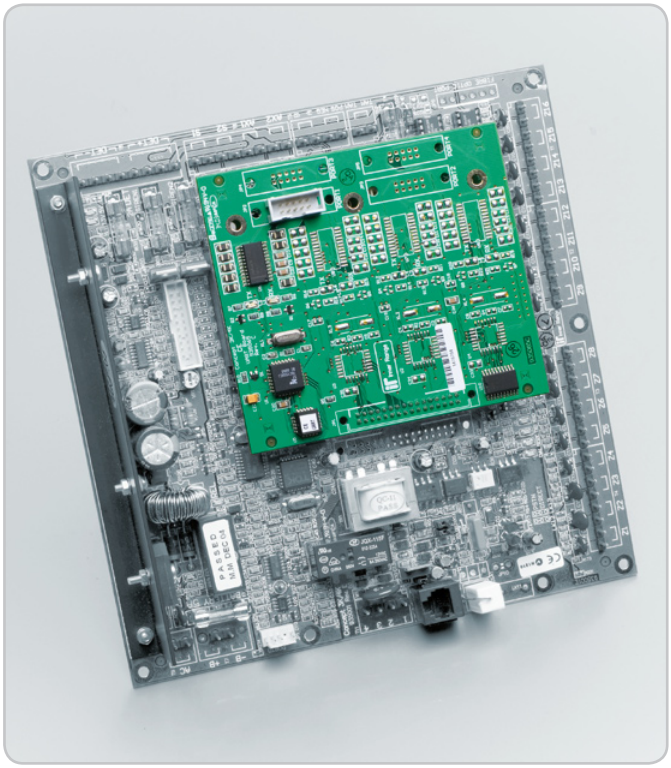
Serial and Ethernet UART Boards

Plugging directly on to the Control Module, Serial UART boards provide up to four high-speed, software configurable, serial ports to allow interaction with third party building automation systems and connection of peripheral serial devices to the Concept 4000 Control Module.

The Ethernet UART provides a 10BaseT Ethernet connection between the Concept 4000 control module and Insight software in addition to up to three serial ports. This allows communications over LANs, WANs, VPNs and the internet. The dedicated IP based Insight protocol combined with the 128 bit AES encryption allows users seamless administration of earth spanning access and security systems.

Up to four simultaneous connections can be maintained via the UART board - an operator using Insight can be communicating with a Control Module whilst the Control Module is interacting with building automation systems and so forth.

Specific cables are available for connection to printers, modems, PCs and 3rd party interfaces.



Features:

- Allows up to four concurrent, high level serial connections
- Serial UART available in Single, Dual or Quad port versions
- Ethernet UART available in Single (Ethernet + 1 serial) or Multiport (Ethernet + 3 serial) versions
- Plugs directly on to the Concept 4000 Control Module
- Allows communication speeds of up to 19200 baud
- Home Automation Communication format is provided with the use of the Multiport Ethernet UART

SPECIFICATIONS

Physical

PCB Dimensions	115(L) x 104(W) (mm)
Installation Environment	0°C - 40°C @15% - 85% Relative Humidity (non-condensing)

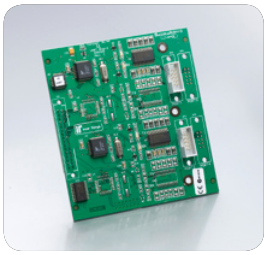
Electrical

Input Voltage to PCB	Via Host Control Module				
	1 Port Serial	**2 Port Serial**	**4 Port Serial**	**Ethernet + 1 Serial**	**Ethernet + 3 Serial**
Operational Current (Min).	80mA	80mA	100mA	120mA	160mA
Serial Ports (Full RS232)	1	2	4	1	1 + 2 x TxD/RxD and RTS/CTS Allows Automation Comms Format
Max. Baud Rate	Supports a max of 38,400 baud. Note that if all 4 serial ports are used, the sum of the baud rates must not exceed 38,400; (e.g. Port 1-19,200, Port 2-9,600, Port 3-9,600).				

Ordering Options

995065
1 Port Serial UART

995066
2 Port Serial UART

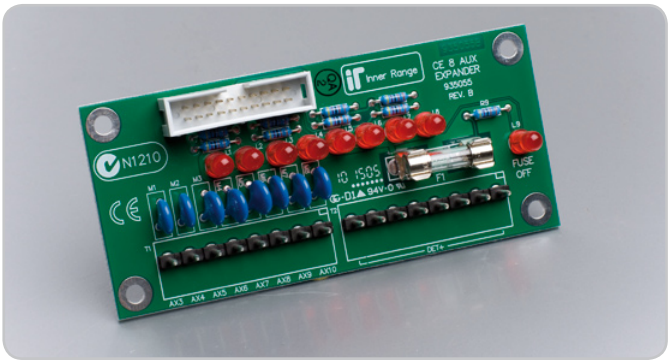


995068
4 Port Serial UART

995090
Ethernet UART +1 Serial Port

995091
Multiport Ethernet UART (1 Ethernet + 3 Serial Ports) Allows Automation Comms Format

8 Auxiliary Output Expander Board



This handy expansion board complements the two on-board auxiliary outputs on the Concept 4000 Control Module with the addition of eight open-collector outputs. The board connects directly onto the Control Module.

Features:

- 8 open-collector outputs
- Each output can switch up to 100mA
- Connects directly to the Concept 4000 Control Module

SPECIFICATIONS

Physical

PCB Dimensions	110(L) x 48(W) (mm)
Installation Environment	0°C - 40°C @15% - 85% Relative humidity (non-condensing)

Electrical

Input Voltage to PCB	Via host Control Module
Operational Current	Min.: 20mA

Outputs

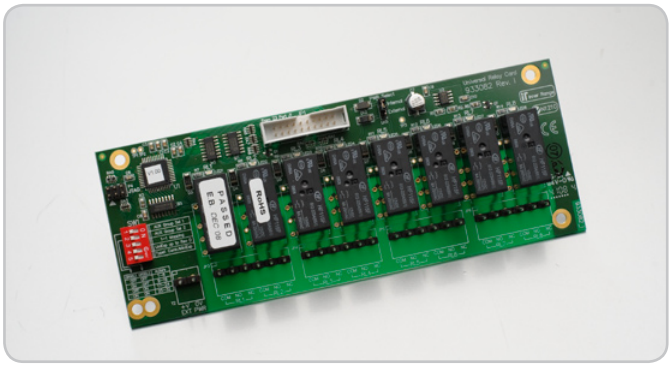
Outputs (open collector)	8
Max. switchable current per output	100mA
Max. combined output current	To be included within the constraints of the host Control Module

Ordering Options

995055 8 Auxiliary Output Expander Board

995082 Versatile 8 Way Relay Board (For Expanders & Control Module)

Versatile 8 Way Relay Board (For Expanders & Control Module)



For general purpose switching applications like process control, warning devices, simple building automation and even control of door locks, etc, the 8 Relay Expander Board adds 8 relays which can switch high-current, low voltage loads.

One Versatile 8 way relay Board can be fitted to a Concept 3000/4000 Control

Module and Mini Expander whereas up to 4 may be attached to a single Universal Expander by means of a Relay Extension Cable (995019).

Features:

- 8 Relay outputs
- Compatible with Concept 3000/4000 Type 0,1 & 2 Controllers
- Compatible with all Universal Expanders
- Up to four relay cards can be connected to one Universal Expander
- Options for traditional or “1to1” Aux - Relay Mapping
- Compatible with Mini Expanders

SPECIFICATIONS

Physical

PCB Dimensions	180(L) x 68(W) (mm)
Installation Environment	0° – 40°C @ 15% to 85% Relative humidity (non-condensing)

Electrical

Input Voltage to PCB	Via host Control Module
Operational Current	Min.: 60mA (per relay when energised)
	Max: 480mA (All relays active)

Outputs

Relay outputs	8
Max. switchable current per relay.	10A @ 30VDC (resistive load) per relay
Max. combined output current	To be included within the constraints of the host Control Module

Elite LCD Terminal

The Elite LCD Terminal is the main user interface for the Concept 4000 system. Its stylish design, 20 key backlit keypad and backlit LCD display allows the user to easily perform typical user operations, review system activity and program all options.

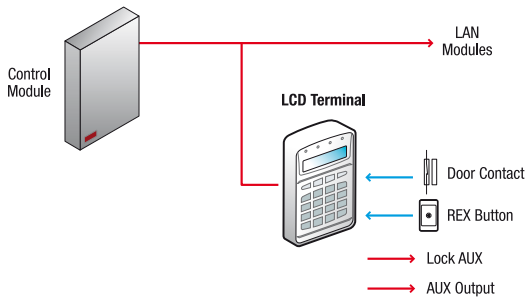
The LCD display allows the use of plain text to guide the user through operations and identify alarms, events and items by name.

Features:

- May be installed as a flush-mount or surface mount unit
- Backlit rubberised keypad provides tactile feedback
- Four LEDs provide area status, door functions, alarms and/or other conditions via programming options
- Instant help text available anytime, at the press of a key
- Multi lingual firmware as standard (12 Languages)
- Four 'arrow' keys provide quick and convenient access to options in the 'spreadsheet' style menu
- Zone inputs and auxiliary outputs provided onboard the Terminal
- Programmable panic key and duress option

Connectivity

The Elite LCD Terminal is connected directly to the Concept RS485 LAN. Up to 99 Elite LCD Terminals may be installed in a system comprising a single Concept 4000 Control Module.



SPECIFICATIONS

Physical	
Housing Dimensions	143(L) x 89(W) x 18(D) (mm) when flush mounted 143(L) x 89(W) x 28(D) (mm)
Installation Environment	0° - 40°C @ 15% to 85% Relative humidity (non-condensing)
Electrical	
Input Voltage to PCB	11V – 14V DC
Operational Current	Normal – 20mA, Maximum – 45mA
Auxiliary Output Current	100mA maximum each
Outputs	
LED Indicators	4 (not applicatble to 993000)
Outputs (open collector)	2

Ordering options

995000ML
Universal Elite Terminal (Multi Lingual)

995000MLWH
Universal Elite Terminal (Multi Lingual white)

993000
Concept 2000/3000 Bi-Lingual Terminal

Weatherproof Terminal

Sporting a stylish, waterproof, dust proof and vandal resistant brushed aluminium case, the Weatherproof Terminal from Inner Range adds yet more versatility to the Concept 4000 stable of security and access control products.

This device is perfect for gate or door access control in exposed environments. In addition to 1 door access control, users can also separately arm and disarm their alarm system or a portion thereof using the Weatherproof Terminal. Along with the area control, there is visible feedback of “valid / invalid PIN” entry as well as “area armed / disarmed” status.

Easier to program, tighter integration...

Unlike previous solutions utilising third party products, this wholly Inner Range solution does not require special user configuration. With this terminal, all programmed system users have access to PIN code functionality similar to that of a normal Elite Terminal but restricted to the single door and area associated with this keypad.

The new Weatherproof Terminal offers more features and tighter integration than third-party weatherproof terminal solutions for Concept 4000 systems.

Features:

Keypad

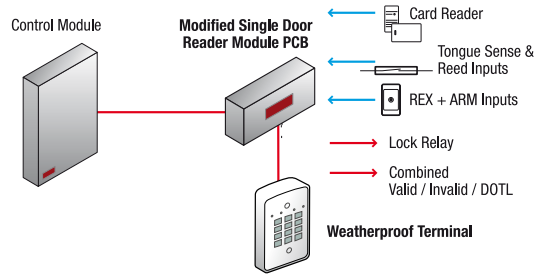
- Attractive, rugged case is highly vandal resistant
- Fully waterproof and dust proof IP68 rated case with no moving parts
- Control one door per Terminal
- Control a security area associated with the door or user’s special area
- Piezo effect pushbuttons with audible feedback
- Easy to install
- Displays login status and area status with “Code” and “Armed” LEDs
- Keypad lockout feature if >3 incorrect logins in a row
- Extendable flying leads provide option to house Reader Module in more sheltered location.

Reader Module PCB

- Provides reed and tongue sense monitoring
- Request to Enter (REN) and Request to Exit (REX) inputs provided
- On-board lock relay
- Fuse protection of keypad power
- Available as PCB only to suit 3rd Party keypads & Readers

Connectivity

The Weatherproof Terminal is connected to the Concept RS485 LAN through the supplied Reader Module. Up to 99 Weatherproof Terminals may be installed in a single panel system.



SPECIFICATIONS

Physical	
Keypad Dimensions	130(L) x 81(W) x 21(D) (mm)
Keypad Installation Environment	-20° – +70°C @ 100% Relative humidity
PCB Dimensions	95(L) x 95(W) (mm)
PCB Installation Environment	0° – 40°C @ 15% to 85% Relative humidity (non-condensing)
Electrical	
Input Voltage to PCB	11-14VDC (Typically from separate power supply)
Operational Current	Min.: 25mA Max.: 105mA with lock relay active. (Including max keypad current)
Fuse Protection	500mA (Keypad/Reader power)
Inputs	
Zone Inputs	5 (May have predefined functions depending on programming options selected, i.e.: Door Reed, REX, REN, Tongue Sense and Arm button)
Reader Ports	1 (used for keypad)
Outputs	
Relay	1 (Typically used for door lock)
Outputs (Open Collector)	5 (3 reserved for Valid/Invalid, Area Armed/ Disarmed indication, keypad beeper)

Ordering options

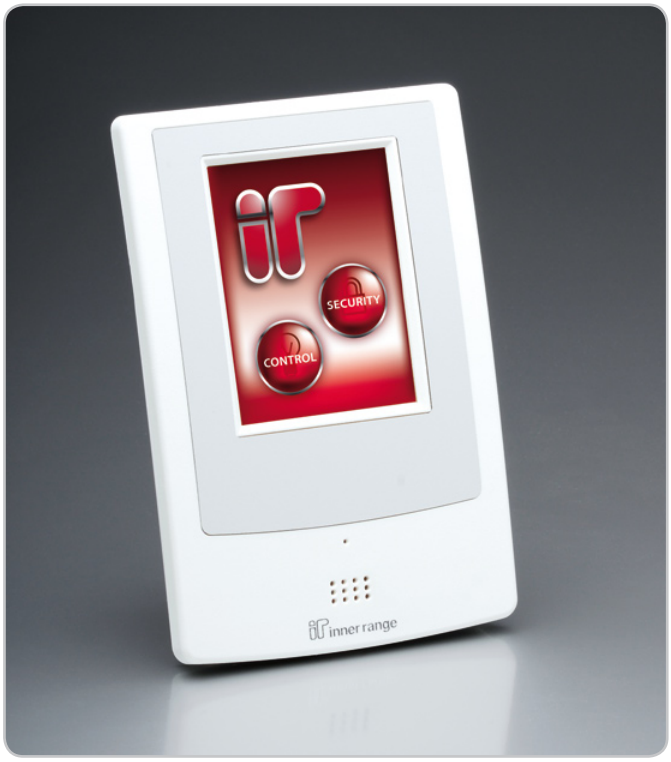
995010	Weatherproof Terminal (Shortform kit containing keypad and reader module PCB. Requires external power supply).
995010PCB&K	Weatherproof Terminal PCB (Supplied with PCB Only)

Touchscreen Terminal

Where unparalleled ease of use is required for end users to interact with security, access and building automation features, the Touchscreen Terminal is the natural choice. The Touchscreen Terminal presents the user with a contemporary, intuitive interface featuring crisp graphics on a 3.5", touch sensitive colour display. The user interface can be tailored to site requirements by the installer, allowing users at each site to see functionality that is relevant to them.

Designed right from the start to be an unobtrusive, yet integral part of the smart office/home, the Touchscreen Terminal features an elegant, slimline housing available in charcoal or ivory colouring. It also has a customisable architectural faceplate which allows the Touchscreen to perfectly complement almost any interior design imaginable.

Without having to 'log in' to the terminal, users can control system control functions like arming/disarming areas and building automation features such as lights, dimmers and heating/cooling as well as specify the time these items stay on. It is possible to have some or all building automation features available only if a user submits a PIN to 'log in' to the Terminal. Security functions like arming and disarming the system (or sections of it) require the user to input their PIN.

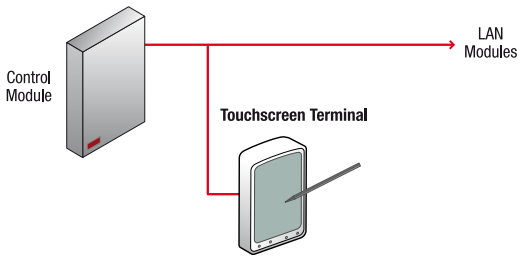


Features:

- Customisable screens
- Contemporary user icons
- Building automation control
- Slimline wall mounted plastics
- Customisable architectural face plate
- Intuitive user interface with simple, yet comprehensive system control for end users

Connectivity

The Touchscreen Terminal is connected directly to the Concept RS485 LAN. Up to 8 Touchscreen Terminals may be installed in a system comprising a single Concept 4000 Control Module.



SPECIFICATIONS

Physical	
Housing Dimensions	158(L) x 107(W) x 18(D) (mm)
Installation Environment	0° – 40°C @ 15% to 85% Relative humidity (non-condensing)
Electrical	
Input Voltage to PCB	11-14VDC
Operational Current	~250mA

Ordering Options

Part Number: 995022
Touchscreen Terminal (Ivory). Supplied with a light grey face plate.

Part Number: 995022CH
Touchscreen Terminal (Charcoal). Supplied with a brushed aluminium face plate.

Part Number: 995022NOTRIM
Touchscreen Terminal (Ivory). WITHOUT FACE PLATE. Supplied with adhesive for custom face plate.

Part Number: 995022CHNOTRIM
Touchscreen Terminal (Charcoal). WITHOUT FACE PLATE. Supplied with adhesive for custom face plate.

Terminal Emulator

Eminently suitable for home automation applications, the Terminal Interface opens pathways for connection to and control of a Concept system by touch screens, embedded controllers and custom software applications using straightforward scripting. Previously, such levels of integration were solely in the realm of expensive custom software interfaces.

The Terminal Interface operates by sending keystroke commands to the Concept system as an LCD Terminal does. In this way, authentication is still controlled by the Concept Control Module, greatly reducing application development time and cost.

Myriads of Applications!

With this level of accessibility to the Concept system and its features, a plethora of automation, system control and other applications become possibilities within easy reach of anyone with simple scripting skills.

Features:

- Operates as an LCD Terminal over an RS232 interface
- Specific ASCII characters sent to the Terminal Interface via RS232 drive the controller in exactly the same way that key presses on an LCD Terminal would
- RS232 cables are available for use with this product to support both DB9 (993009) and DB25 (993025) conections

SPECIFICATIONS

Physical

Enclosure Dimensions	238(L) x 118(W) x 74(D) (mm)
Installation Environment	0° – 40°C @ 15% to 85% Relative humidity (non-condensing)

Electrical

Input Voltage	11-14VDC
Operational Current	Min.: 12mA
	Max.: 42mA (RS232 port active)
Serial Interface	RS232

Automation Communications Format

The Automation Communications format allows the Concept 4000 Control Module to connect to a 3rd party Home/ Building Automation system via an RS232 Serial connection. The protocol is ASCII based for ease of understanding and is designed primarily to enable home automation connectivity.

The communications option requires that a version 4.01 or later Multiport Ethernet UART board (Part No: 995091 as listed on page 19) be fitted to the Control Module.

The connection from the UART board serial port to the 3rd party device is then made using the DB9 PC Interface Cable (Part No: 993009)

Features:

- Request state of Zone Inputs, System Inputs, Areas, Doors, Auxiliaries and Home Auxiliaries.
- Request text names for Areas, Inputs, Users, Doors, Home Auxiliaries & Time Zones.
- Control Area, Door, Auxiliary and Home Auxiliary states.
- Isolate/De-isolate Zone Inputs and System Inputs.
- Manipulate Control Module Zone Input states.
- Access the Event Review log.

Ordering Options

995021 Terminal Emulator

995091
Multiport Ethernet UART
(Allows Automation Comms format)

Universal Expander Module

The Universal Expander module provides an additional 16 zone inputs, 8 auxiliary outputs and 2 Siren drivers.

Lift Control Applications

The optional Lift Interface board enables extensive control and monitoring of lift car operation and floor access. Up to 32 floors may be controlled and monitored per Universal Expander using up to four optional Lift Interface boards (994020) and a Lift Interface Extension Cable (605020).

Features:

- Choice of 7 EOL Resistor value schemes
- Extra DET+ outputs
- Battery deep discharge protection
- Enhanced surge protection
- Field upgradeable firmware
- 2 independent siren driver outputs
- Cabinet tamper, siren tamper, power supply fuse and battery status monitoring
- Fuse protection of LAN, Detector and Siren outputs, Battery circuit
- 1 or 2 Amp power supply

Expansion Options
A range of expansion boards are available, see pages 27 & 28

SPECIFICATIONS

Physical		
Cabinet Dimensions	460(L) x 358(W) x 85(D) (mm)	
PCB Dimensions	180(L) x 180(W) x 40(D) (mm)	
Installation Environment	0° – 40°C @ 15% to 85% Relative humidity (non-condensing)	
Cabinet Battery Bracket	To suit 12V 7AH Sealed Lead Acid battery	
Electrical	**Plugpack and PCB versions**	**Transformer Versions**
Mains Input Voltage	240VAC 50Hz	240VAC 50Hz
Mains Input Current	100mA	500mA
Input Voltage to PCB	16-18VAC	16-18VAC
Fuse Protection	Separate fuses for battery, Siren 1, Siren 2, LAN & Detector Power	
Current Consumption		
Total Current Limit	1.3A	2.2A
Operational Current (No peripherals connected)	*150mA*	*150mA*
Recommended current allowance for battery charging	*300mA*	*300mA*
Available Current (for detectors, auxiliaries, relays, etc).	*700mA*	*1.6A*
Inputs		
Zone Inputs	16 (Expandable to 32 with optional 16 Zone Expansion board 995006)	
Separate Cabinet Tamper Input	Yes	
Outputs		
Siren Outputs	2 (Internal & External) Max load:2 x 8 Ohm,10W siren speakers	
Outputs (Open Collector)	8 (Expandable to 32 with optional 24 Auxiliary Expansion board 995007)	
Max. switchable current per Aux.	Aux.1&2:500mA, Aux.3-8:200mA	
Relays	Expandable to 32 with optional 8 way Versatile Relay boards 995082	

Ordering options

995004AU
Universal Expander with plug pack

995004AUPS
Universal Expander with transformer

995004PCB&K
Universal Expander short form kit

Mini Expander Module

The Mini Expander module provides a cost effective solution whenever a small number of zones and auxiliaries are required.

The Mini Expander module is available in both powered and unpowered forms. The powered Mini Expander module is supplied in a larger cabinet and comes complete with a 2 Amp DC power supply with battery recharging circuitry.

Exclusive Features

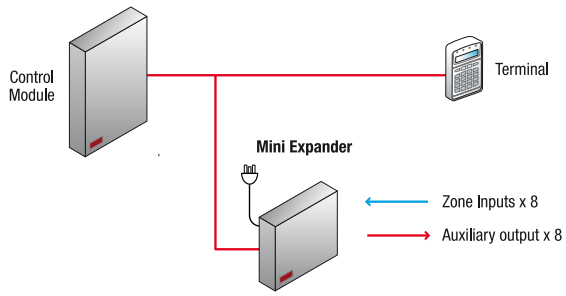
The Mini Expander module has a programmable de-bounce feature for increased sensitivity to inputs such as hold-up buttons, event counting and monitoring of electronic plant equipment. The input counting feature enables accurate monitoring of events and/or customer activity.

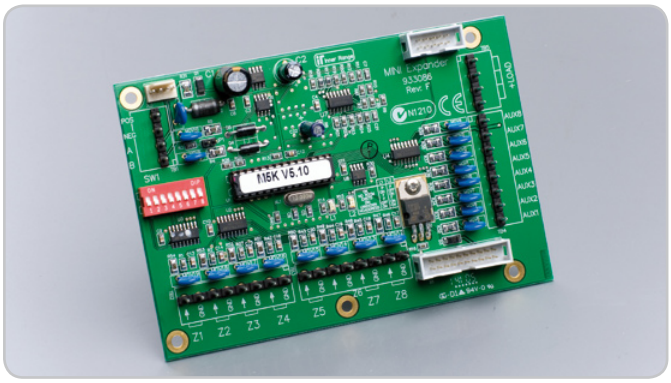
Features:

- 8 zone inputs
- 8 auxiliary outputs
- Programmable input de-bounce time
- Event counting facility

Connectivity

The mini expander is connected directly to the Concept RS485 LAN. Up to 99 mini expanders may be installed in a system comprising a single Concept 4000 Control Module.



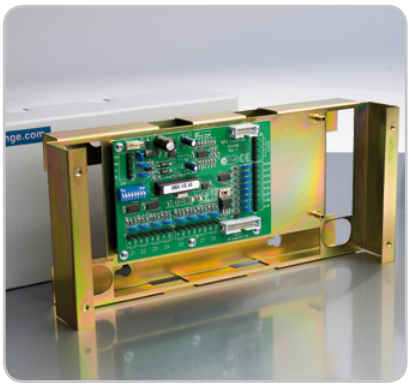


SPECIFICATIONS

Physical		
995086	305(L) x 140(W) x 72(D) (mm)	
995086PS	252(L) x 358(W) x 85(D) (mm)	
PCB Dimensions	140(L) x 95(W) (mm)	
Installation Environment	0°-40°C @ 15% to 85% Relative humidity (non-condensing)	
Cabinet Battery Bracket	To suit 12V 7AH Sealed Lead Acid battery	
Electrical	**PCB versions**	**Transformer Versions**
Mains Input Voltage	N/A	240VAC 50Hz
Mains Input Current	N/A	500mA
Input Voltage to PCB	11-14VDC	16-18VAC
Fuse Protection	Separate fuses for battery, Siren 1, Siren 2, LAN & Detector Power	
Current Consumption		
Total Current Limit	N/A	2.0A
Operational Current (No peripherals connected)	*30mA*	*30mA*
Recommended current allowance for battery charging	*N/A*	*300mA*
Available Current (for detectors, auxiliaries, relays, etc).	Power supply source dependent	*1.6A*
Inputs		
Zone Inputs	8	
Programmable Input De-bounce	5mS to 1250mS, programmable per zone input	
Outputs		
Outputs (Open Collector)	8	
Max. switchable current per Auxiliary	Aux.1:500mA, Aux.2-8:200mA	
Relays	Expandable to 8 with optional Versatile Relay Expander Board 995082 - replaces on-board auxiliaries	

Ordering options

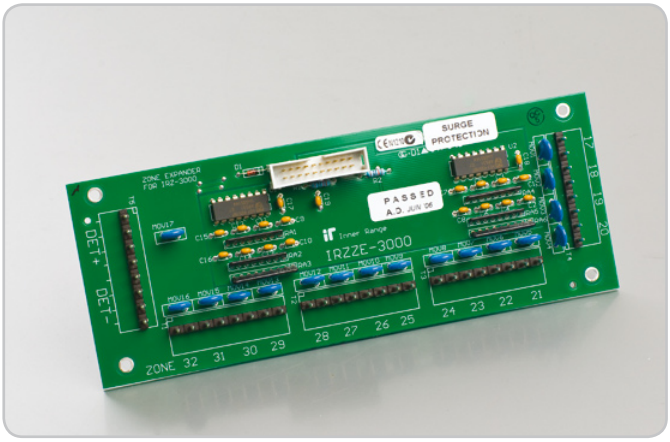
995086
Mini Expander in metal enclosure



995086PS
Mini Expander with power supply in metal enclosure

995086PCB&K
Mini Expander and accessories. short form kit

Universal Expander Options



16 Zone Expander Board

The 16 Zone Expander Board provides a cost-effective addition of another 16 zone inputs to the Universal Expander, as well as extra detector power supply connectors to simplify device wiring. Designed for installation within the same enclosure as its host Universal Expander, the expander is connected using a supplied ribbon cable.

Features:

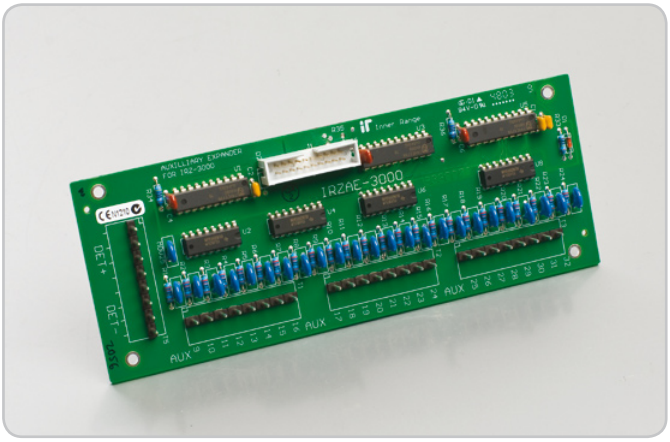
- 16 Zone inputs
- Quick and easy installation
- Cost effective Zone input expansion option

SPECIFICATIONS

Physical	
PCB Dimensions	180(L) x 68(W) x 15(D) (mm)
Installation Environment	0° – 40°C @ 15% to 85% Relative humidity (non-condensing)
Electrical	
Input Voltage to PCB	Via host Universal Expander
Operational Current Min.	40mA (Not including detector power)
Total available current for detectors	To be included within the constraints of the host Universal Expander
Inputs	
Zone Inputs	16

Ordering options

995006
16 Zone Expander Board for Universal Expander with surge protection



24 Auxiliary Expander Board

The 24 Auxiliary Expander Board provides 24 more open-collector auxiliary outputs plus additional power supply connectors for external devices that might need them. Designed for installation within the same enclosure as its host Universal Expander, the expander is connected using a supplied ribbon cable.

Features:

- 24 open-collector outputs, each capable of switching 100mA
- Quick and easy installation
- Cost effective Auxiliary expansion option

SPECIFICATIONS

Physical	
PCB Dimensions	180(L) x 68(W) x 15(D) (mm)
Installation Environment	0° – 40°C @ 15% to 85% Relative humidity (non-condensing)
Electrical	
Power Supply Input	Via host Universal Expander
Operational Current Min.	40mA
Outputs	
Outputs (open collector)	24
Max. switchable current per output	100mA
Max. combined output current	To be included within the constraints of the host Universal Expander

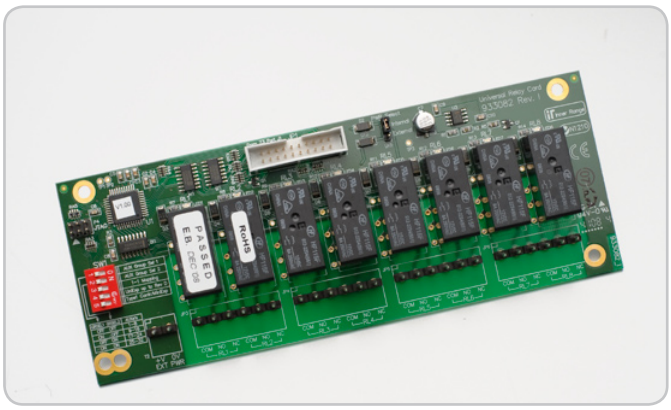
Ordering options

995007
24 Auxiliary Expander Board for Universal Expander with surge protection

Versatile 8 Way Relay Board (For Expanders & Control Module)

For general purpose switching applications like process control, warning devices, simple building automation and even control of door locks, etc, the 8 Relay Expander Board adds 8 relays which can switch high-current, low voltage loads.

One Versatile 8 way relay Board can be fitted to a Mini Expander and Concept 3000/4000 Control Modules whereas up to 4 may be attached to a single Universal Expander by means of a Relay Extension Cable (995019).



Features:

- 8 Relay outputs
- Compatible with Concept 3000/4000 Type 0,1 & 2 Controllers
- Compatible with all Universal Expanders
- Up to four relay cards can be connected to one Universal Expander

Ordering options

995082
Versatile 8 Way Relay Board (For Expanders & Control Module)

SPECIFICATIONS

Physical	
PCB Dimensions – 995082	180(L) x 68(W) (mm)
Installation Environment	0° – 40°C @ 15% to 85% Relative humidity (non-condensing)
Electrical	
Input Voltage to PCB	Via host Universal Expander
Operational Current	Min.: 60mA (per relay when energised) Max.: 480mA (All relays active)
Outputs	
Relay outputs	8
Max. switchable current per relay.	10A @ 30VDC (resistive load) per relay
Max. combined output current	To be included within the constraints of the host Universal Expander

Passive Relay Cards

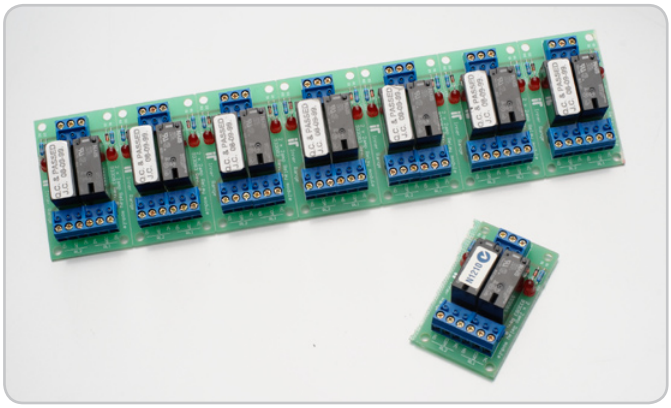
2 x10 Amp Relay Card (Connected Strip of 8)

The 2 x 10Amp x 8 Relay Board provides low voltage, high current relay outputs, offering a general purpose switching interface. The Relay Board is supplied as a strip of 8 Boards with a common DC Supply connection that can be used complete with all 16 Relays or broken down to the required size. The relays can be switched by any Open collector

Auxiliary output capable of switching up to 50mA.

1Amp DPDT Relay Card

The 1 Amp Double-pole, double throw Relay interface provides low voltage relay outputs offering a general purpose switched interface. A single relay is provided with connections for two independent sets of contacts. The relays can be switched by any Open collector Auxiliary output capable of switching a minimum of 20mA.

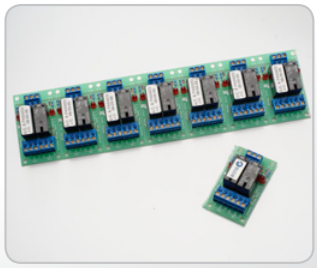


SPECIFICATIONS for 995083M & 995085

Physical	
PCB Dimensions	**995083M** - 70(W) x 40(L) Single / 70(W) x 320(L) Strip of 8 (mm) **995085** - 38(W) x 48(L) x 20(H) (mm)
Installation environment	0º to 40º Celsius 15% to 85% Relative humidity (non-condensing)
Electrical	
Power Supply Input	11V to 14V DC
Current Consumption	**995083M** - 45mA per relay **995085** - 15mA per relay
Outputs	
Contact Rating:	**995083M** - Max. switched current: 10 Amps @ 30VDC (Resistive load) **995085** - Max. switched current: 1 Amp @ 24VDC (Resistive load)

Ordering options

995083M
2 x10Amp x 8 Relay Card



995085
1Amp DPDT Relay Card

Lift Interface Board

The optional Lift Interface board enables extensive control and monitoring of lift car operation and floor access. Up to 32 floors may be controlled and monitored per Universal Expander using up to four optional Lift Interface boards and a Lift Interface Extension Cable (995019).

Each Lift Interface board has 8 opto-isolated zone inputs and 8 relay outputs to provide the facility to connect to lift control systems. Button feedback can be enabled where required. This feature ensures that only one button can be pressed per valid card read. Additionally, Concept 4000 provides the means for different sets of floor buttons to be made available depending on the user attempting to access the lift buttons.

Features:

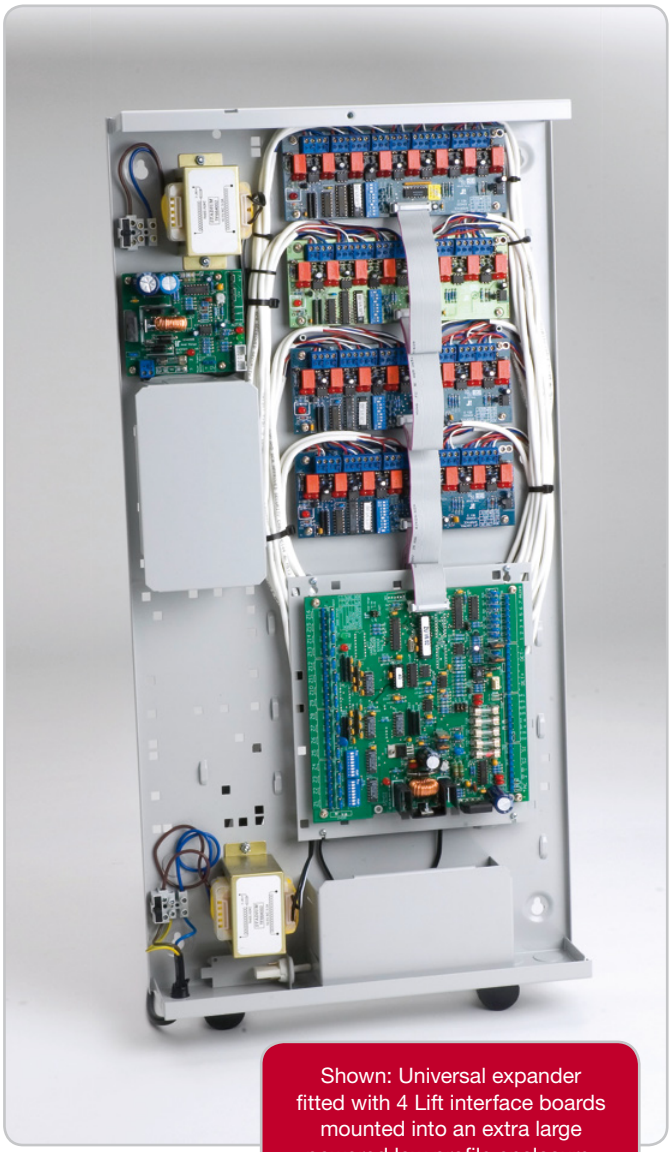
- Each Control Module will secure up to 64 floors and 16 lift cars. Custom configurations will allow 32 lift cars. For larger applications, use multiple Control Modules linked using Insight software
- Lift access readers are interfaced using standard Concept 4000 Door Access Modules
- Button feedback supported. Logs user and selected floor.

SPECIFICATIONS

Physical	
PCB Dimensions	180(L) x 68(W) x 20(D) (mm)
Installation Environment	0° – 40°C @ 15% to 85% Relative humidity (non-condensing)
Electrical	
Input Voltage to PCB	Via host Universal Expander
Operational Current	Min.: 45mA (No relays active)
	Max: 170mA (All relays active)
Inputs	
Zone Inputs	8 (Special opto-isolated button sense inputs)
Button input voltage	16-120VDC full wave rectified, non regulated.
Outputs	
Relay outputs	8
Max. switchable current per relay.	500mA @ 16 - 48V DC/AC RMS
	200mA @ 60 -150V DC/AC RMS (30W/62.5VA)
Max. combined output current	To be included within the constraints of the host Universal Expander

Relay Extension Cable

If there is a requirement to install Relay Expander Boards away from their controlling module, or a need to connect more than one Relay Expander Board to a Universal Expander, the 440mm Relay Extension Cable can be used. It has 6 DIL 20 way sockets to connect relay boards to a Universal Expander.



Shown: Universal expander fitted with 4 Lift interface boards mounted into an extra large powered low profile enclosure. With this configuration, it is possible to service 32 floors.

Ordering options

994020
Lift Interface Board for Universal Expander

995019
Relay Extension Cable
With 6 DIL 20 way sockets

RF Expander Module

The RF Expander Module provides connectivity to the Visonic range of wireless devices. The RF Expander Module allows seamless functionality for up to 32 wireless zone inputs and 4,000 users with key fobs. Wireless detectors reduce installation time and cost, whilst key fobs provide secure arming and disarming of the system as well as remote operation of outputs such as lighting and doors etc.

The RF Module identifies each wireless device by a unique 24bit ID command code. All transmissions are protected by a 64bit encryption regime which protects the system from substitution and 'replay' attacks.

Using RF key fobs, the Control Panel can be securely armed and disarmed. Auxiliary outputs can also be wirelessly controlled.

Large range of wireless devices

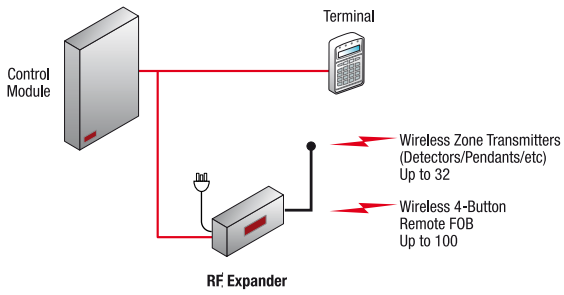
The RF Expander module is compatible with the Powercode™ and CodeSecure™ 433MHz range of Visonic transmitters. These families support a wide range of devices. See www.visonic.com for further information.

Features:

- Encrypted wireless transmissions protect system from unauthorised access
- Perfect for heritage listed building installations
- Connectivity for up to 32 wireless detectors and 4000 key fobs
- Key fob button functionality can be tailored for each user
- Secure wireless arm/disarm
- Auxiliary control
- Wireless panic input
- Low battery reporting

Connectivity

The RF expander is connected directly to the Concept RS485 LAN. Up to 64 RF Expander modules may be installed in a single panel system. (Note that a custom memory configuration is required if more than 16 RF Expander modules are to be connected to a single panel system).



SPECIFICATIONS

Physical	
Enclosure Dimensions	238(L) x 118(W) x 74(D) (mm)
PCB Dimensions	87(L) x 73(W) x 10(D) (mm) including receiver
Installation Environment	0° – 40°C @ 15% to 85% Relative humidity (non-condensing)
Electrical	
Input Voltage to PCB	11-14VDC (From LAN or separate battery backed external power supply)
Operational Current	25mA
Inputs	
Zone Inputs	32 wireless zones
Key Fob (MCT-234W)	Up to 100, depending on Control Module memory configuration (Up to 4000 with custom memory configuration)
RF Frequency	433.92MHz

Ordering options

995020 RF Module (in off white Plastic Enclosure)

Intelligent Four Door Access Module

The Intelligent 4 Door Access module has been specifically designed to meet the highest levels of system integrity and redundancy planning. The Intelligent 4 Door Access module effectively combines offline stand-alone operation with enhanced feature design.

Incredible power and functionality

The four door intelligent access module fully supports the advanced Concept access control features: i.e. soft / hard / timed anti-passback, dual user, card and PIN, free access via timezones etc.

The Intelligent Access Module Expander Board

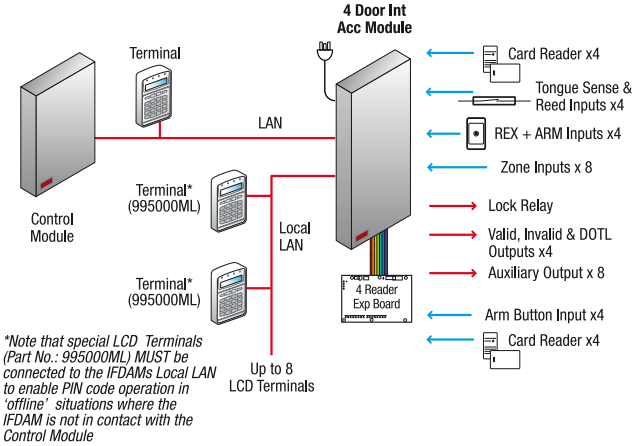
This board allows the Intelligent 4 Door Access Module to control up to 4 doors with Card In / Card Out operation using 8 card readers. Part number: 995013.

Features:

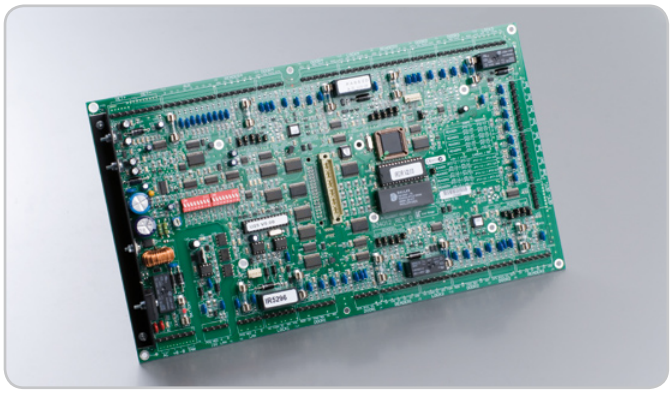
- Four doors via four card readers (Expandable to 8 card readers with 995013)
- On board 3 amp supply
- Four onboard lock relays
- Optically isolated LAN input provides 5kV isolation for protection from surges
- Separate valid, invalid and Door Open Too Long (DOTL) output for each door
- Separate reed, tongue, Request to Enter (REN), Request to Exit (REX) & Arm inputs for each reader
- All card reader interfaces operate with common magnetic swipe and Wiegand readers without the need for any additional interfaces
- Onboard review buffer for offline operation
- Each card reader may be independently configured, allowing a combination of card reader technologies
- Door open too long pre warn function

Connectivity

The 4 Door Access Module is connected directly to the Concept RS485 LAN. Up to 64 of the 4 Door Intelligent access modules may be installed in a single panel system.



*Note that special LCD Terminals (Part No.: 995000ML) MUST be connected to the IFDAMs Local LAN to enable PIN code operation in 'offline' situations where the IFDAM is not in contact with the Control Module



SPECIFICATIONS

Physical		
Cabinet Dimensions	702(L) x 358(W) x 85(D) (mm)	
Installation Environment	0°C - 40°C @15 - 85% Relative humidity (non-condensing)	
Cabinet Battery Bracket	To suit 12V 18AH Sealed Lead Acid battery	
Electrical	**PCB versions**	**Transformer Versions**
Mains Input Voltage	N/A	240VAC 50Hz
Mains Input Current	N/A	500mA
Input Voltage to PCB	16-18VAC	16-18VAC
Fuse Protection	Separate fuses for battery, Siren 1, Siren 2, LAN & Detector Power	
Current Consumption		
Total Current Limit	N/A	3A
Operational Current		
(No peripherals connected)	*450mA*	*450mA*
(995013 conected No peripherals)	*610mA*	*610mA*
Recommended current allowance for battery charging	*N/A*	*300mA*
Available Current (for detectors, auxiliaries, relays, etc).	Power supply source dependent	*2A*
Inputs		
Zone Inputs	8 General purpose Zone Inputs	
Door Inputs	Door reed, REX, REN, Arm & tongue sense per door	
Reader Ports	4 (Expandable to 8 using Intelligent Reader Expander 995013)	
Outputs		
Relay	4 (Typically used for door locks)	
Outputs (open collector)	24 (8 General purpose; Separate valid, invalid and DOTL output for each door)	

Ordering Options

994012
Intelligent Four Door Access Module

995013
Reader Expander Board for Intelligent Four Door Access Module

2 Door Access Module

The 2 Door Access Module is an economical two door, two card reader access module. It can control two doors with two readers, or one door with in and out readers.

Flexibility Plus

Readers can be configured independently allowing mixed technologies on the one Module.

Enterprise Level Access Control

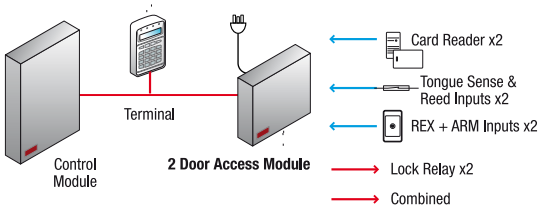
The 2 Door Access module fully supports the advanced Concept access control features: i.e. soft / hard / timed anti-passback, dual user, card and PIN, free access via timezones etc.

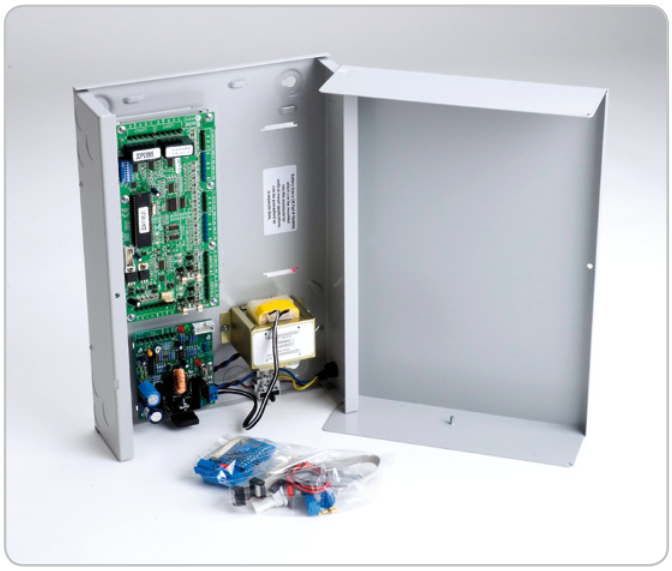
Features:

- Supports magnetic swipe or Wiegand card readers without the need for an additional interface
- Standard version supports offline database of up to 31 backup cards
- Cache mode version supports offline database of 35 programmed backup cards, plus a dynamic cache of the last 110 cards presented at each door
- Provides reed and tongue sense monitoring
- Request to Enter (REN), Request to Exit (REX) & Arm inputs provided
- Door Open Too Long (DOTL), valid and invalid outputs
- On-board lock relays
- Fuse protection of Reader head power

Connectivity

The 2 Door Access module is connected directly to the Concept RS485 LAN. Up to 99 of the 2 Door Access modules may be installed in a single panel system.





SPECIFICATIONS

Physical	
995012	305(L) x 140(W) x 72(D) (mm)
995012PS / 995012CAPS	252(L) x 358(W) x 85(D) (mm)
Installation Environment	0°C - 40°C @15 - 85% Relative humidity (non-condensing)
Electrical	
Input Voltage to PCB	11-14V DC (Typically from separate power supply)
Operational Current	70mA (No relays active and no external load)
Max	210mA
Fuse Protection	500mA
Inputs	
Zone Inputs	7 (May have predefined functions depending on programming options selected, i.e.: Door Reed, REX, REN, Tongue Sense and Arm button)
Reader Ports	2
Outputs	
Relay	2 (Typically used for door locks)
Outputs (open collector)	4 (Typically used for Valid/Invalid indication)
DOTL pre-warn	2 (1 per door)

Ordering options

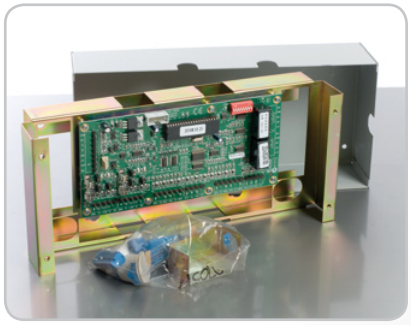
995012
2 Door Access Module metal enclosure

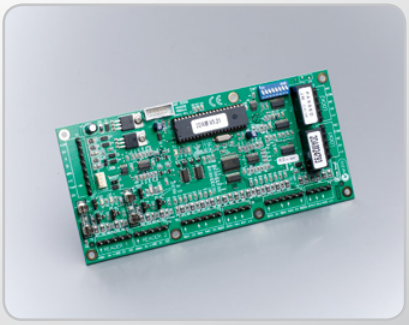
995012PS 2 Door Access Module and power supply in metal enclosure

995012CAPS 2 Door Access Module with offline cache mode and power supply in metal enclosure

995012PCB&K 2 Door Access Module short form kit

995012CAPCB&K 2 Door Access Module with offline cache mode short form kit





Single Door Access Module

The 1 Door Access module is an economical one door, one card reader access module.

Supports Multiple Card Reader Formats

Configuration options allow for a broad range of card reader technologies.

Enterprise Level Access Control

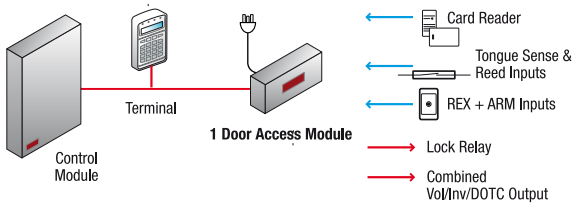
The 1 Door Access module fully supports the advanced Concept access control features: i.e. soft / hard / timed anti-passback, dual user, card and PIN, free access via timezones etc.

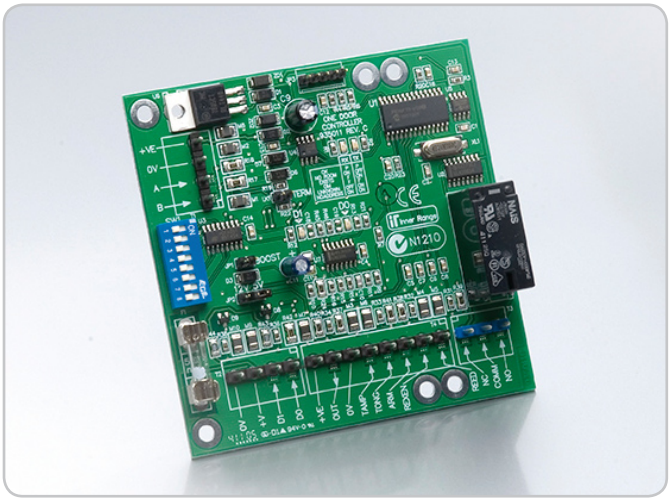
Features:

- Supports magnetic swipe or Wiegand card readers without the need for an additional interface
- Standard version supports offline database of up to 31 backup cards
- Provides reed and tongue sense monitoring
- Request to Enter (REN), Request to Exit (REX) & Arm inputs provided
- Door Open Too Long (DOTL), valid and invalid outputs
- On-board lock relay
- Fuse protection of Reader head power

Connectivity

The 1 Door Access Module is connected directly to the Concept 485 LAN. Up to 99 of the 1 Door Access modules may be installed in a single panel system.





SPECIFICATIONS

Physical	
PCB Dimensions	95(L) x 95(W) (mm)
Installation Environment	0°C - 40°C @15 - 85% Relative humidity (non-condensing)
Electrical	
Input Voltage to PCB	11-14V DC (Typically from separate power supply)
Operational Current	15mA
Max	25mA with lock relay active. (NOT including Reader or Auxiliary Out current)
Fuse Protection	500mA
Inputs	
Zone Inputs	4 (May have predefined functions depending on programming options selected, i.e.: Door Reed, REX/REN, Tongue Sense and Arm button)
Reader Ports	1
Outputs	
Relay	1 (Typically used for door locks)
Outputs (open collector)	1 (Typically used for Valid/Invalid indication)

Ordering options

995011PCB&K 1 Door Access Module

IP Four Door Controller

The IP 4 Door Controller provides an advanced network solution for fully integrated access control, security and building automation systems.

This product combines a special Concept Control Module and two 2 Door Access Modules in a single convenient enclosure catering for all the I/O and processing requirements for access control, alarm monitoring and automation functions for up to 4 doors, 10 areas and 16 zones.

Two additional 2 Door Access Modules can also be connected to provide control of up to 8 doors. “Programmable Site Code” is also supported.

Massive System Expandability!

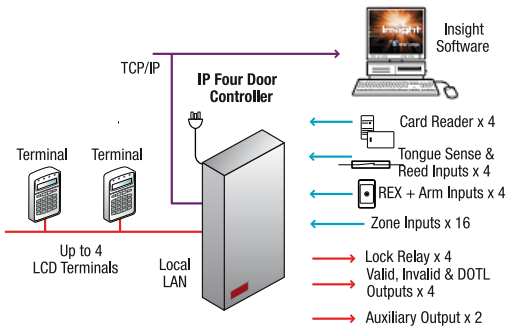
While the IP 4 Door Controller provides a competitive solution for smaller sites, it is also ideal for large and multi-site systems where many of these units can be networked and managed as a single integrated system by our advanced Insight system management software.

Features:

- Four doors via four card readers. (Expandable to 8 card readers with 2 x 995012PCB-01)
- Provides general purpose zone inputs, siren outputs and strobe outputs
- 10,000 users (expandable on request)
- Connect up to 4 LCD Terminals to RS485 LAN to provide PIN code and additional user operations
- Soft or Hard Anti-Passback that functions across all doors
- Supports ‘Dual User’ and ‘Card and PIN’ requirements
- Extended door access times for disabled users
- All card reader interfaces operate with common magnetic swipe and Wiegand readers without the need for any additional interfaces
- Onboard review buffer for offline operation
- Each card reader may be independently configured, allowing a combination of card reader technologies

Connectivity

The IP 4 Door Controller is a standalone unit. Using Insight software, an unlimited amount of IP 4 Door Controllers can be managed as a single system.



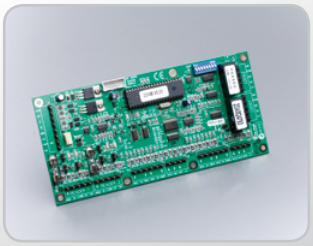
SPECIFICATIONS

Physical	
Cabinet Dimensions	640(L) x 320(W) x 112(D) (mm)
Installation Environment	0°C - 40°C @15 - 85% Relative humidity (non-condensing)
Cabinet Battery Bracket	To suit 12V 18AH Sealed Lead Acid battery
Electrical	
Mains Input Voltage	240VAC 50Hz
Mains Input Current	Max 500mA
Input Voltage to PCB	16-18VAC
Fuse Protection	500mA
Current Consumption	
Total Current Limit	2.2A
Operational Current (No peripherals connected)	*700mA*
Recommended current allowance for battery charging	*300mA*
Available Current (for readers,detectors, auxiliaries, relays, etc).	*1.2A*
Inputs	
Zone Inputs	16 general purpose zone inputs
Door Inputs	Door Reed, REX, REN, Arm & Tongue Sense per door
Reader Ports	4 (Expandable to 8 using 2 x 2 Door Expansion Kits)
Outputs	
Door Outputs	Valid, invalid and DOTL per door
Relay	4 (Typically used for door locks)
Outputs (open collector)	2

Ordering Options

995002IPDAU
IP 4 Door Access Controller

995012PCB-01
2 Door Expansion Kit

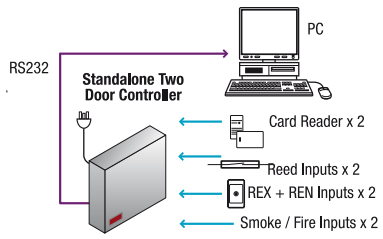


Standalone 2 Door Access Controller

Designed for smaller applications, yet rich in features, the Standalone Two Door Access Controller is a powerful access control solution in an economical package.

Connectivity

The Standalone 2 Door Access Controller can be connected to a PC for setup and system management.

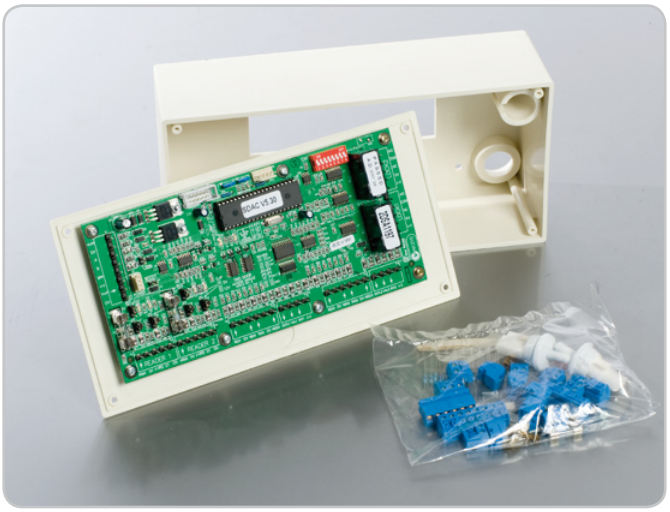


Features:

- Supports magnetic swipe or Wiegand card readers without the need for an additional interface
- Capacity for 100 cards with full user names
- Provides reed monitoring
- Request to Enter (REN), Request to Exit (REX) & Arm inputs provided
- Inputs for fire or smoke detectors
- Multi-purpose output per door to signal Door Open Too Long (DOTL), Door Forced or Fire Alarm
- Valid/ invalid outputs
- On-board heavy duty lock relays
- Fuse protection of Reader head power
- Real time clock enabling six Time Zones, four of which are user programmable
- Timestamped 64 event hardware Review buffer
- Comes with free management software incorporating full Review log functionality

Upgradeable to a LAN based Concept 2 Door Access Module

The Standalone 2 Door Access Controller can grow with your needs. By purchasing a firmware upgrade, the Standalone 2 Door can be upgraded to become a 2 Door Access Module and interfaced with a Concept 4000 Security/Access system.



SPECIFICATIONS

Physical	
995012SA	238(L) x 118(W) x 74(D) (mm)
995012SAPS	252(L) x 358(W) x 85(D) (mm)
Installation Environment	0°C - 40°C @15 - 85% Relative humidity (non-condensing)
Electrical	
Input Voltage to PCB	11-14VDC (Typically from separate power supply)
Operational Current	Min.: 70mA (No relays active and no external load) Max.: 210mA
Fuse Protection	500mA
Inputs	
Zone Inputs	1 per door (typically used for fire/smoke detector)
Door Inputs	Door Reed, REX, REN, Arm & Tongue Sense per door
Reader Ports	2
Outputs	
Relay	2 (Typically used for door locks)
Outputs (open collector)	6 (Typically used for Valid/Invalid and alarm indication)

Ordering Options

995012SA
Standalone Two Door Access Controller in plastic utility enclosure. Requires external power supply

995012SAPS
Standalone Two Door Access Controller in Small Low Profile Powered Enclosure. (Contains 2A Power Supply)

993036
Port 0 Cable and IRSDAC software

995112SAUP
Conversion kit. Converts Standalone Two Door Access Controller to a Concept 4000 Cached 2 Door Access Module

2 Amp Power Supply

Offering high reliability and stability, the 2A Power Supply features ubiquitously in Concept systems.

Specifically designed and tested for compatibility with proximity type reader heads, the 2A Power Supply can be used wherever battery backed 12V supplies are required to power Concept modules, detectors, readers and auxiliary devices such as strobes, sounders, locks, etc.

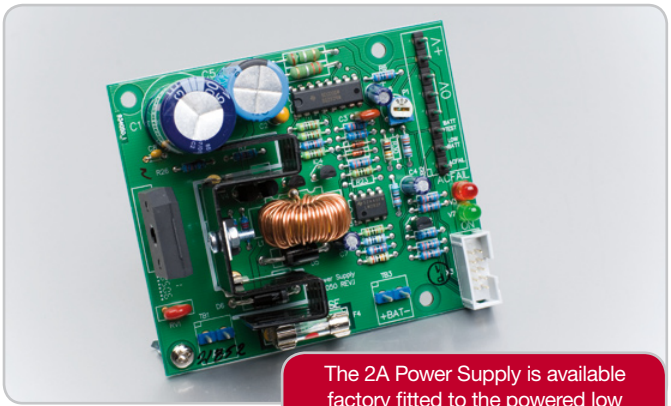
To allow for redundancy requirements, the outputs of two of these modules can be connected in parallel to provide uninterrupted backup. (Alternatively, this configuration can provide a 4 Amp supply source if used with two of the 2.5A In-line Plug packs.)

The 2A Power Supply is factory fitted to the powered low profile enclosures or supplied as a PCB module. (see pages 40-41)

- For most Concept 4000 power needs
- Designed for compatibility with proximity reader heads
- Input and output fuse protection

Features:

- Reliable and stable
- Small form factor
- Fused AC input and battery protection (4A)
- LED indication of Output Present, AC Fail and Reverse Battery Polarity
- Can be ganged with a second 2A P/S to provide 4A source or dual-redundant power source
- Can be set to 1A current limit
- Ribbon cable output for devices such as Mini Expander, etc



The 2A Power Supply is available factory fitted to the powered low profile enclosures (see pages 43-44) or supplied as a PCB module.

SPECIFICATIONS

Physical

PCB Dimensions	95(L) x 85(W) x 50(D) (mm)
Installation Environment	0° – 40°C @ 15% to 85% Relative humidity (non-condensing)

Electrical

Input Voltage to PCB	16VAC @ 2.5A
Switching Frequency	~50kHz
Conversion Efficiency	~80%
"Low Battery" Trigger Voltage	11VDC
Output Voltage	13.8VDC +/-2% up to 2A
Max. Output Current	2A
Output Ripple	100mV RMS (Max.) @ Iout=2A
Load Regulation	+/- 100mV @ Iout=0.1A to 2A
Battery Capacity	12V, 7AH Sealed Lead Acid

Ordering Options

994055 Short form 2A Power Supply (PCB only)

Dual-format Prox Reader, IR-Secure 40 Cards and Fobs

IR-Secure 40 is a secure, encrypted 40 bit access card format which guarantees unique site codes and millions of card numbers per site. Inner Range have also released a range of cards and fobs and dual-format reader to support this format.

IR-Secure 40 cards and fobs are available in two variants, Standard and Registered Site (RS):

- **Standard** - Site Codes up to 32768 and Card Numbers up to 65535
- **RS** - Guaranteed unique Site Codes and selectable card number ranges

The new Dual-format Proximity Reader reads standard Wiegand format cards (such as HID prox) and the new IR-Secure 40 format. The readers are compact, feature an attractive moulding and come at a very competitive price point.

Ordering Options

994700 IR Dual-format Prox Card Reader (Defaulted for IR-Secure 40)

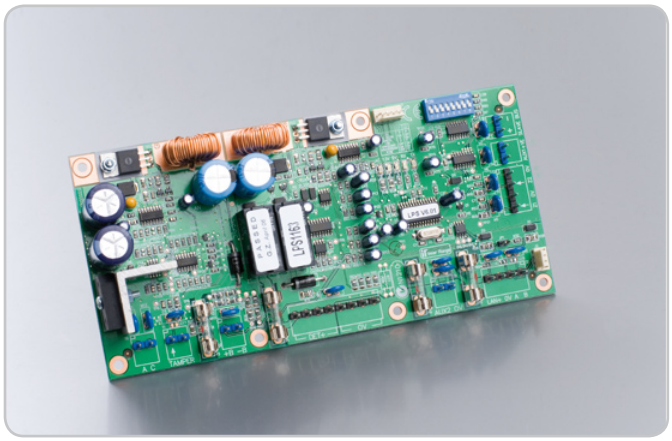
IR-Secure 40 Media	Standard	Registered Site
Clamshell Prox Card	**994602**	**994602RS**
ISO Prox Card	**994600**	**994600RS**
Key Fob	**994601**	**994601RS**

LAN Power Supply

The LAN Power Supply is a dual 2A supervised power supply producing 4A nominally split evenly between system power and dedicated battery charging.

Up to three additional LAN Power Supplies can be slaved to one LAN Power Supply. Each slave can be configured differently to tailor power output to system requirements. Ganged LAN Power Supplies come into their own in installations where express charging of large back up battery banks is needed.

The LAN Power Supply connects to the Concept system LAN, communicating status of the supply and is applicable where battery backed 12V supplies are required to power other unpowered Inner Range modules, detectors, readers and auxiliary devices such as strobes, sounders, locks, etc.



Features:

- Dual 2A power supply (2A system power + 2A battery charging)
- Up to 4 units can be linked in a master / slave layout to provide 14A dedicated for charging or detector power. Slaves can be configured as:
  - Split (2A power / 2A charging)
  - Charger only
  - Power only
  - Spare
- Reports status of fault, tamper plus input and output conditions to Control Module via Concept LAN
- Contains 2 general purpose zone inputs
- Additional switched 12V output auxiliary with current monitoring for use with satellite sirens
- 12V auxiliary can be used as 12V power source for strobes, 12V lamps when current monitoring switched off

Ordering Options

995050AU
LAN Power Supply in metal enclosure

995050PCB
LAN Power Supply (PCB only)

SPECIFICATIONS

Physical

Cabinet Dimensions	325(L) x 250(W) x 112(D) (mm)
PCB Dimensions	200(L) x 95(W) x 40(D) (mm)
Installation Environment	0° – 40°C @ 15% to 85% Relative humidity (non-condensing)
Weight	8kg (including mains transformer, battery and cover)
Cabinet Battery Bracket	To suit 12V, 7AH Sealed Lead Acid Battery

Electrical

	PCB versions	Transformer Versions
Mains Input Voltage	N/A	240VAC 50Hz
Mains Input Current	N/A	500mA
Input Voltage to PCB	16-18VAC	16-18VAC

Current Consumption

Total Current Limit	4A	4A
Available current for battery charging	*2A**	*2A**
Available Current (for detectors, auxiliaries, relays, etc).	*2A**	*2A**

*Slaved LAN Power Supply units can be configured to deliver 4A of battery charging current but no detector power or vice-versa.

Power Supply Output

Output Voltage	13.75VDC +/-2% up to 4A
Maximum Output Current	4A (combined current from DET+, LAN+, BAT+ and auxiliaries)
Output Ripple	100mV RMS maximum @ Iout=2A
Switching Frequency	~50kHz
Load Regulation	+/-100mV @ Iout=0.1A to 4A
Conversion Efficiency	~80%

Battery

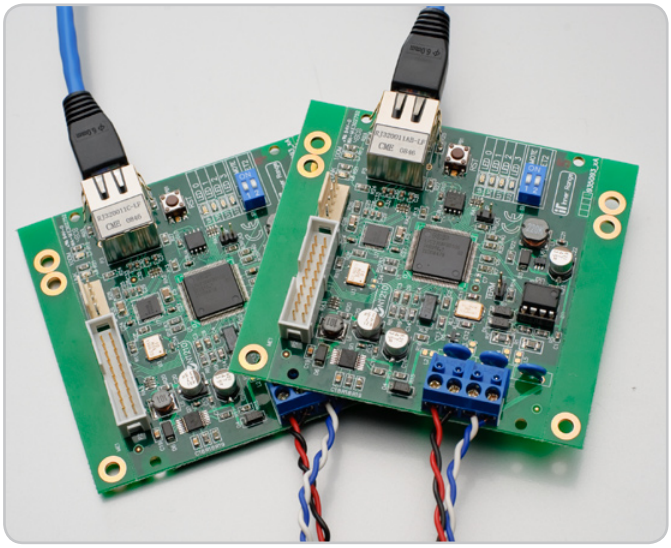
Battery Capacity (per 2A supply)	12V 7AH Sealed Lead Acid Battery (no slaves connected)
Battery Input Fuse	5A

Output Protection

DET+ Fuse	5A
LAN+ Fuse	5A
AUX2 Fuse	5A

Concept LAN Ethernet Bridge

The Concept LAN Ethernet Bridge provides a convenient interface for the Concept RS485 LAN to be distributed over standard TCP/IP Ethernet networks. Ethernet connectivity allows the Concept LAN to traverse over TCP/IP architecture including 802.3i (10baseT) and 802.3U (100baseT) switching and routing equipment. Wireless communications can also be achieved via wireless router and Ethernet / 802.11 point to point RF solutions. Every Concept LAN Ethernet Bridge module can be assigned as a master or a slave via initial set-up options, and the master unit is configured with a static IP address while the slave units support static or dynamic addressing. Multiple master and slave modules can exist within the same network and multiple Concept RS485 LAN modules can be connected to each slave. Security is maintained in all segments of the LAN providing alarms for network outages or module substitution conditions, and the use of Ethernet networks also provides the added benefit of electrical isolation between RS485 LAN segments.
The Concept LAN Ethernet Bridge provides the full flexibility of Ethernet networks while maintaining the high security and scale of Concept's standard RS485 LAN architecture.



SPECIFICATIONS

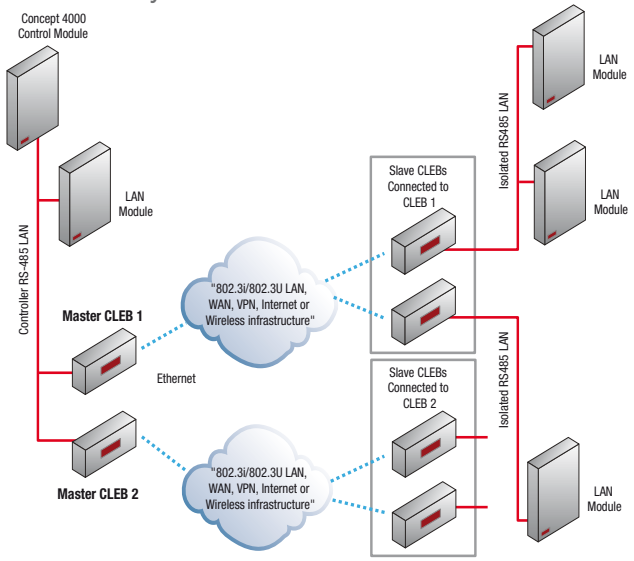
Physical

PCB Dimensions: ``	95(L) x 95(W) (mm)
Installation Environment:	0°C-40°C @ 15% to 85% Relative humidity (non condensing)

Electrical

Input Voltage to PCB:	(11-14VDC)
Operational Current:	Typical : ~65 mA Max: 110mA
Ethernet LAN:	10baseT / 100baseT (802.3i / 802.3U)
Ethernet Connector:	RJ45

Connectivity



Ordering Options

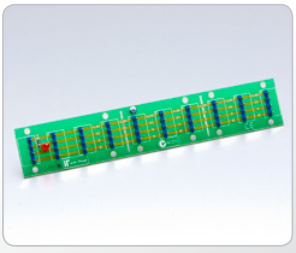
995093
Concept LAN Ethernet Bridge

LAN Hubs

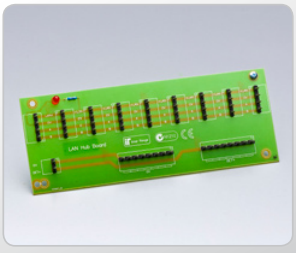
2 types of passive LAN hubs are available for the distribution of Concept RS-485 networks. The 995911 provides a single 10 way HUB or can be broken into 3 to provide 2 x 3way sections and 1 x 4 way. The 995910 provides a single 9 way HUB with added terminals for LAN positive and Zero Volt connections and is sized to fit standard low profile enclosure PCB mounts. Both boards include an LED power indicator and are supplied complete with terminal blocks and mounting posts.

Ordering Options

995911 LAN Hub board (Breakaway Version)



995910 LAN Hub board 8 Way (With DET+ & 0V)



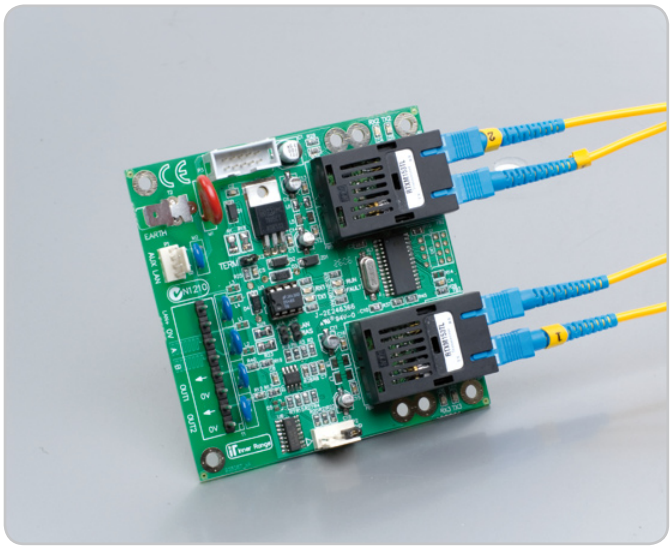
Fibre Modems

The Inner Range Fibre Modem provides two separate, optically isolated ports to the Concept system LAN. A set of Fibre Modems are ideal for applications where modules in a Concept system are in different buildings and/or are separated by large distances.

In terms of a Concept system, Fibre Modem links boast maximum LAN distance whilst providing immunity to earth loops, induced electrical noise and propagation of pulses from lightning strikes by virtue of the optical isolation.

The modems have two fibre ports which enable sets of Fibre Modems to be arranged in 'branch' or 'loop' configurations. Each fibre port utilises a pair of fibres per link to provide full-duplex communication. Up to 5 Fibre Modems can be connected in series.

Both Single Mode and Multimode versions of the Fibre Modem are available.



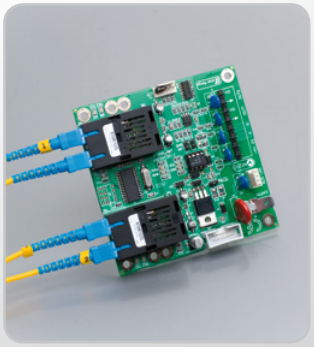
Features:

- Multimode Fibre Modems extend Concept LAN up to 10Km
- Single Mode Fibre Modems extend Concept LAN up to 13Km
- Electrical isolation from the remote LAN
- Fibre links immune to earth loops and induced noise
- Immune to propagation of electrical pulses due to lightning
- Supports loop and branch ("Y") configurations
- Redundant LAN path when Fibre Modems used in 'loop' configuration
- 'Loop Fault' and 'Branch Fault' auxiliary outputs

Ordering Options

995081
Multimode Fibre Modem

995087
Single Mode Fibre Modem



Note: Single Mode Fibre Modem (995087) is supplied in the same plastic enclosure as the Multimode Fibre Modem (995081). There is also provision to mount Fibre Modem PCBs in the Low Profile Enclosures along with Control Module and Expander Module PCBs

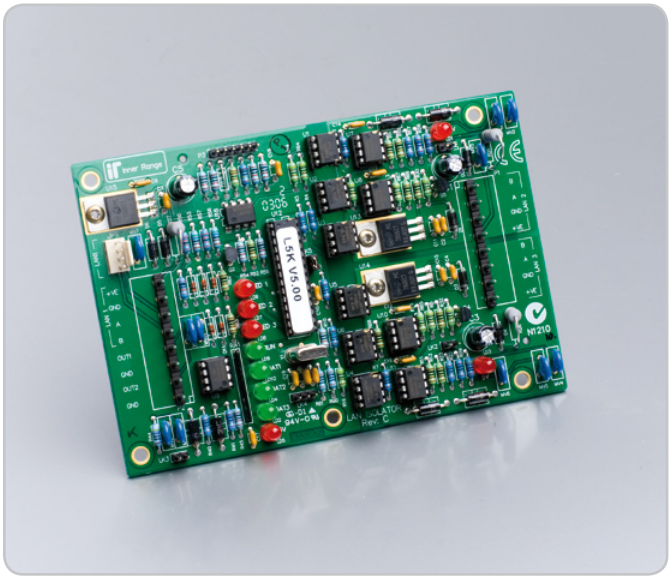
SPECIFICATIONS

Physical	
Enclosure Dimensions	238(L) x 118(W) x 74(D) (mm)
PCB Dimensions	96(L) x 96(W) (mm) Note: Fibre Connector heads protrude 15mm from PCB
Installation Environment	0° – 40°C @ 15% to 85% Relative humidity (non-condensing)
Fibre Optic Connections	Type ST. 62.5/125 820nm multimode cable (Multimode) Type SC. 9/125 1310nm single mode cable (Single Mode)
Electrical	
Input Voltage to PCB	11-14VDC (From LAN or separate battery backed external power supply)
Operational Current	Min.: 20mA (idle) Max.: 120mA
Optical	
Tx Optical Power	-12dBm (typical)
Rx Optical Power	-24dBm (minimum for logic operation)
Max. Modem to Modem Optical Cable Distance (Multimode)	2km
Max. Modem to Modem Optical Cable Distance (Single Mode)	13km

LAN Isolator

The LAN Isolator affords a Concept system with optical isolation of LAN wiring. It has 2 optically isolated sections (branches) which can be combined to work in an optional LAN 'loop' mode. The elimination of electrical connection between LAN sections serves as a means to break earth loops as well as extending the length of the LAN. Each LAN Isolator amplifies the signal and provides an additional 1500m of LAN distance.

In addition to this, the LAN Isolator monitors its LAN sections and can isolate sections of the LAN where problems are discovered. Also provided are outputs to indicate the status of the LAN allowing LAN section status and alarms to be reported as required.

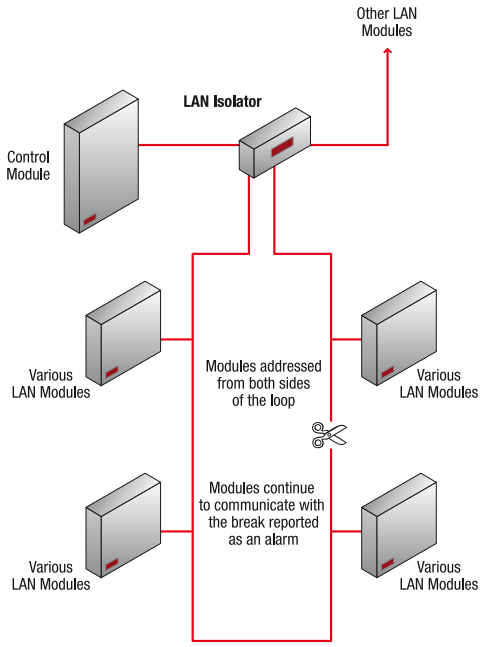


Features:

- 5kV isolation between LAN sections
- Can help eliminate earth loops in the LAN
- Improved anti-surge protection
- Improved signal to noise ratio over longer cable runs
- Two downlink ports on each unit allow monitored 'Loop' wiring or two separate downlink 'Branches'
- Supports loop and branch ("Y") configurations
- Protects sections of the LAN from faults or tampering in other sections
- 'Loop Fail' and 'Branch Isolated' alarm outputs can be wired into any standard zone input
- Plastic enclosure supports base and cover tamper switches

Connectivity

The LAN Isolator is connected directly to the Concept RS485 LAN. The configuration shown is loop mode, it can also be deployed as 2 separated branches.



SPECIFICATIONS

Physical

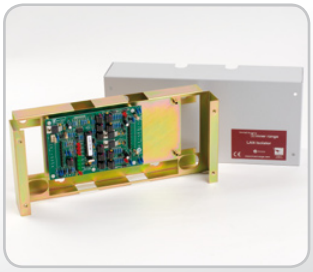
Cabinet Dimensions	305(L) x 140(W) x 72(D) (mm)
PCB Dimensions	140(L) x 92(W) (mm)
Installation Environment	0° – 40°C @ 15% to 85% Relative humidity (non-condensing)

Electrical

Input Voltage to PCB	11-14VDC (From LAN or separate battery backed external power supply)
Operational Current (Standby)	LAN1 section: 28mA, LAN2 or LAN3 section: 15mA
Operational Current (Busy)	LAN1 section: 65mA, LAN2 or LAN3 section: 30mA
Isolation	LAN1 - LAN2: 5kV, LAN1 - LAN3: 5kV
Alarm Outputs	'Loop Fail' and 'Branch Isolated'

Ordering Options

995080
LAN Isolator in metal enclosure



995080PCB&K
LAN Isolator short form kit

Analogue Module

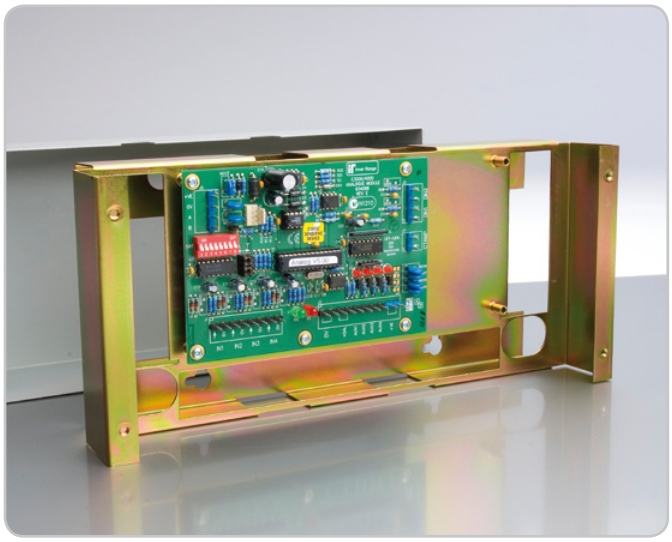
The Analogue module provides the capability to monitor, report and action on analogue quantities within a Concept system.

This module can be programmed to operate an auxiliary when an analogue level from one or more of its independent analogue inputs exceeds or goes below a pre-programmed trigger point.

Analogue levels can be monitored and/or controlled in scaled units at any LCD Terminal or remotely off-site.

Flexible Programming Options

The Analogue Module allows the programmer a variety of selectable mode settings and levels with which to configure the system to the particular application. Trigger point, output auxiliary, tamper levels and hysteresis values may be individually selected for each input.

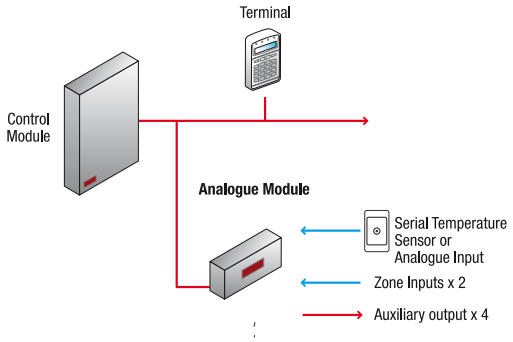


Features:

- Four independent analog inputs, each with its own programmable 'trigger point'
- 0-5V or 4-20mA types available
- 8 bit resolution, 1% accuracy
- Compatible with the Serial Temperature Sensor (995089)
- LAN voltage monitoring
- Cabinet tamper input
- Four output auxiliaries
- Two general purpose digital inputs (No EOL resistors)

Connectivity

The Analogue Module is connected directly to the Concept RS485 LAN. Up to 99 Analogue Modules may be installed in a single panel system.



SPECIFICATIONS

Physical	
Cabinet Dimensions	305(L) x 140(W) x 72(D) (mm)
PCB Dimensions	140(L) x 95(W) (mm)
Installation Environment	0°C - 40°C @15 - 85% Relative humidity (non-condensing)
Electrical	
Input Voltage to PCB	11-14VDC
Operational Current	~30mA
Inputs	
Zone Inputs	4 Analog inputs, 2 general purpose zone Inputs
Input Range: Voltage Option	0-5VDC uni-polar referenced to 0V input terminal
Current Loop Option	4-20mA DC polarised, input termination resistor selectable
Input Impedance	10kOhm set by input termination resistor.(ADC Input Impedance~10MOhm)
ADC Resolution	8bit
Input Resolution	20mV
Over Voltage Protection	Yes
ESD Protection	Yes
Outputs	
Outputs (open collector)	4
Max. Switchable Current per output	200mA
Max. Combined Output Current	To be included within the constraints of the power supply source

Serial Temperature Sensor

The sensor records the temperature and converts it to an 8 bit digital value. The digital data is then sent to the Analogue Module to be processed. Each Serial Temperature Sensor is supplied with a wall mounting kit and requires no further calibration.

Features:

- Temperature may be polled every 2 seconds
- Wall mounting kit supplied
- No calibration required

SPECIFICATIONS

Physical	
Cabinet Dimensions	116(L) x 77(W) x 14(D) (mm)
PCB Dimensions	73(L) x 53(W) (mm)
Electrical	
Input Voltage to PCB	5VDC (1mA) from host Analogue Module
Sensor Specification	
Temperature Range	0°C - 125°C or -55°C - +70°C
Resolution	+/- 0.5°C
Accuracy	
0°C - 70°C	+/- 0.5°C
70°C - 85°C	+/- 1.0°C
85°C - 125°C	+/- 2.0°C

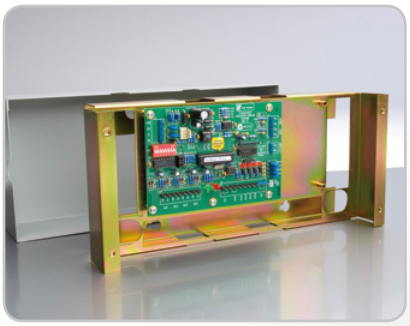
Ordering Options

995088
Analogue Module (Voltage Mode) in metal enclosure

995088C
Analogue Module (Current Mode) in metal enclosure

995088PCB&K
Analogue Module (Voltage Mode. Short form kit)

995089
Serial Temperature Sensor



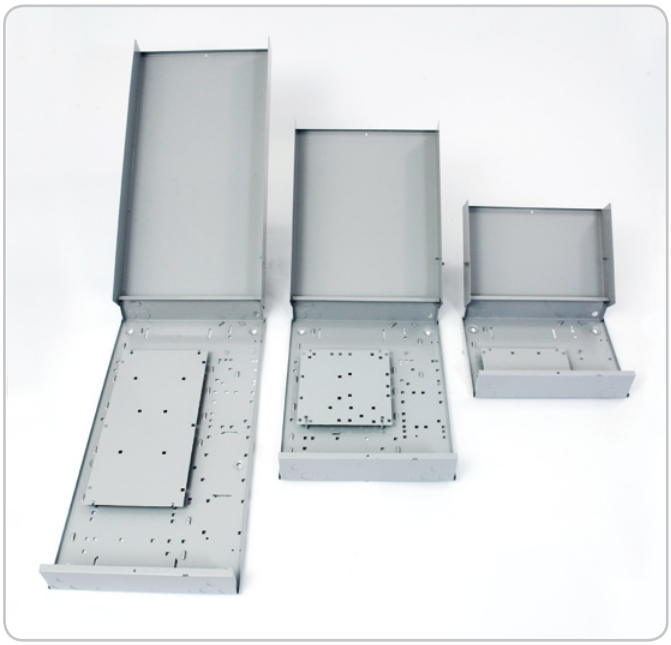
Low Profile Enclosures

Designed for our Concept 4000 Module PCBs, the Low Profile Metal Enclosures present a modular, application-oriented solution to suit a variety of installation requirements.

The three sizes of Low Profile Enclosures are designed to minimise necessary wall space and simplify the practice of selecting and installing enclosures.

Powered and un-powered versions of each kind of enclosure are available.

Four sizes of mounting plates enable many combinations of associated module PCB types to be installed within the same enclosure.



Features:

- Enclosures are constructed of medium duty, grey powder coated metal with a hinged, removable lid
- A tamper switch and bracket are supplied with each enclosure
- Conduit access is provided by “punch out” holes in the top and bottom of the enclosure, while a DB9 mounting hole is also provided
- Powered Low Profile Enclosures are designed to house the transformer, 2A Power Supply PCB, 7AH battery and one or more Concept Module PCBs, depending on their size type
- One or more mounting plates are placed onto stand-offs in the enclosure. Wiring access is provided directly below each mounting plate
- All Modules and boards are mounted within the enclosure using spring mounting clips which accept 3mm screws
- A quantity of mounting clips and screws are supplied with each enclosure
- Additional clip and screw packs may be purchased separately (P/N: 999002)

Dimensions:

Small LPE

Cabinet Dimensions (External)	252(L) x 358(W) x 85(D) (mm)
Cabinet Dimensions (Internal)	245(L) x 346(W) x 73(D) (mm)

Med LPE

Cabinet Dimensions (External)	460(L) x 358(W) x 85(D) (mm)
Cabinet Dimensions (Internal)	455(L) x 346(W) x 73(D) (mm)

Xlarge LPE

Cabinet Dimensions (External)	702(L) x 358(W) x 85(D) (mm)
Cabinet Dimensions (Internal)	697(L) x 346(W) x 73(D) (mm)

Ordering options

995200
Small Low Profile Enclosure

995201
Medium Low Profile Enclosure

995203
Xtra Large Low Profile Enclosure

PCB Size Chart

To assist in determining how many Concept 4000 modules will fit into each respective version of the Low Profile Enclosure, a sizing convention has been adopted and assigned to each Concept 4000 module PCB for the purpose of defining and grouping its PCB size.

The following table indicates the size/type of most of the common Concept PCBs and some of the combination possibilities within each enclosure.

PCB Size Type	IR Product or Module	Small Low Profile Enclosure	Medium Low Profile Enclosure	Xtra Large Low Profile Enclosure
Size A	995001PCB&K Control Module 995004PCB&K Universal Expander	**Combination Examples** 1xE + 1xC 1xE + 1xB 1xE + 2xD	**Combination Examples** 1xA + 2xG 1xA + 2xC 1xA + 1xB + 2xD 1xA + 1xG + 1xD 1xA + 1xB + 1xH 1xA + 1xC + 1xE 1xA + 1xB + 1xE + 1xD 1xA + 1xF + 1xH + 1xD 1xA + 1xG + 1xE + 1xH 2xB + 1xE 2xB + 2xD	**Combination Examples** 1xA + 3xC + 1xE 1xA + 6xD + 1xE 1xA + 4xG + 1xE +1xF 1xA + 2xB + 1xE + 1xF 1xA + 1xH + 1xE + 2xB 1xA + 1xE + 1xF + 2xC 1xA + 1xE + 1xF + 4xD 1xJ + 2xB + 1xE 1xJ+ 2xD + 1xE 1xJ + 2xC + 1xE
Size B	995050PCB Lan Power Supply 995012PCB&K 2 Door Module			
Size C	995080PCB&K Lan Isolator 995086PCB&K Mini Expander 995088PCB&K Analog Module 998305 FE3000 Serial			
Size D	995011PCB&K 1 Door Module 995081 Fibre Modem 995093 LAN Ethernet Bridge 995021 Terminal Emulator 995010PCB&K Weatherproof Terminal PCB			
Size E	994055 2 Amp Power Supply			
Size F	9983200PT Multipath IP Serial STU			
Size G	995082 Versatile Relay Card 994020 Lift Relay Card 995006 16 Zone Expansion Card 995007 24 Aux Expansion Card			
Size H	995055 8 Aux Expander			
Size J	994012 Intelligent 4 Door Module			

Ordering options

995200PE
Small Powered Low Profile Enclosure

995201PE
Medium Powered Low Profile Enclosure

995203PE
Xtra Large Powered Low Profile Enclosure

Other Enclosures

To complement the Low Profile Metal Enclosures, there are a number of other enclosures to suit different purposes. Fittings to assist with installation are also available.

Plastic Enclosures

These Plastic Enclosures are designed for use with the smaller modules in the lineup and come with tamper protection switches. Available in off-white.

Modified Equipment Box

Powder coated metal enclosure with tamper protection switch. Fits 'BB' sized PCBs only (2 Door Access Module, Mini Expander etc). - Refer Size Chart, previous page.

Weather Resistant Terminal Housing

Suitable for external mounting, this weather resistant case offers protection for the Concept Terminals and features a hinged door with key lock, along with a window to allow viewing of text displayed on the terminal.

Ordering Options

990045WH	Plastic Enclosure (Off White)
999002	PCB Mounting Clip Pack
999005	IR Fixing Pack
926005	Universal Battery Bracket
926019	18AH Battery Bracket
990050	External Weather Resistant Terminal Housing
650003	Key Lock to suit Weather Resistant Housing
995512	2 Door Acc Mod Equipment Box

Training & Demonstration Units

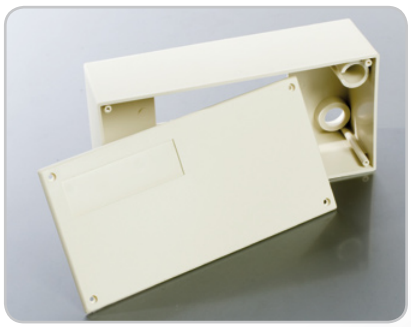
The portable Demonstration Units are an invaluable aid for demonstration, training or for prototyping. Fitted in a 'photographers case', the self-contained unit comprises of a Concept 4000 Control Module, Elite Terminal and 2 Door Access Module along with proximity and swipe readers. There are a number of three position switches connected to various inputs as well as LEDs to indicate status of outputs.

Ordering Options

998050	General Briefcase Demo Unit

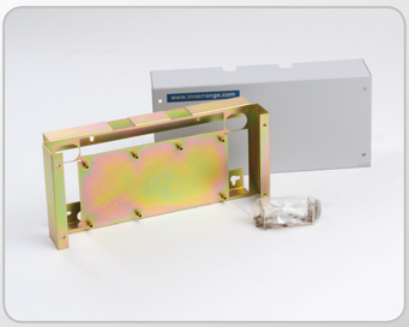
Ordering options

990045WH
Plastic Enclosure (Off White)



990050
External Weather Resistant Terminal Housing

995512
2 Door Acc Mod Equipment Box



Interface Cables

A range of pre-assembled interface cables are available for connection to various serial devices.

UART Port Interface Cables

These cables provide a permanent connection for Laptops, PC's, Printers and modems to the UART ports on a Control Module. A UART Interface board is also required.

Port '0' Interface Cable

This interface cable provides a temporary Laptop connection to Port '0' on the Control Module. This feature should only be used for commissioning purposes.

LAN Ancillary Cable

The LAN Ancillary cable enables the installer to temporarily connect a Terminal to a LAN module to assist in commissioning. The cable features a four way polarised socket. An Ancillary LAN Connector is produced on most Concept 4000 modules that connect to the LAN.

Securitel Cable

This cable is designed to connect a Securitel Serial STU or C&K Systems SpreadNet® Receiver to a Port on a Concept 4000 UART board.

FE3000 Modem Interface Cable

This cable is designed to connect an Inner Range FE3000 GSM Modem to a port on an Concept 4000 UART interface board.

C Bus / Dynalite Cables

Use these cables to connect between the Concept 4000 and third party systems.

Ordering options

Computers

993009	DB9 Interface for Laptop
993025	DB25 Interface for PC's
993026	Printer Interface Cable
993027	Modem Interface Cable
993030	Port 0 Interface Cable
995009	PC Interface Kit (UART to Chassis Mount DB9)

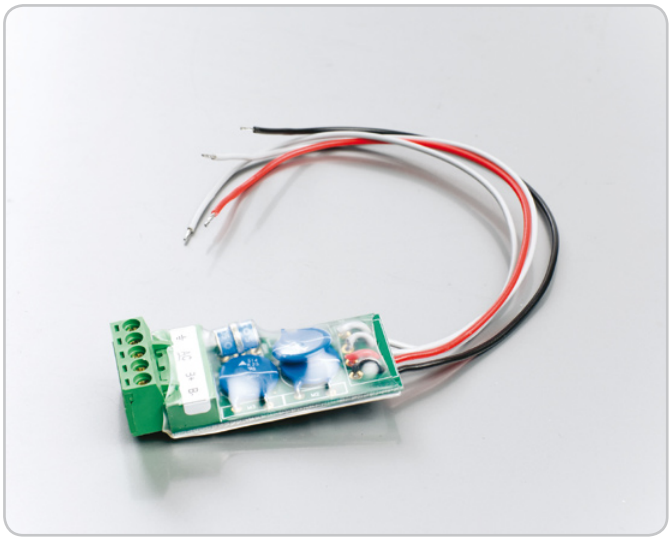
Commissioning Purposes

993028	LAN Ancillary Cable
608204	FE3000 Programming Lead

Communications

993031	MODBUS Port 0 Cable
993035	Securitel / SpreadNet® Cable
994091	GSM Modem Interface Cable for FE2000
994092	FE3000/GSM Modem Interface Cable For FE3000
993013	C-Bus/HPM Interface Cable
993032	Dynalite Interface Cable

Surge Diverters



Where Concept 4000 hardware is installed in locations and environments where a very high level of electrical transient activity might be anticipated, the addition of Inner Range Advanced Surge Protection Devices adds a further layer of transient protection.

There are three unique Inner Range Advanced Surge Protection Devices with each device purpose built to provide additional protection inline with the most vulnerable components of the system circuitry: The phone line, the power supply and the Concept 4000 RS485 LAN.

Ordering Options

995040	Low Voltage AC and Battery Surge Diverter
995041	Inner Range LAN Surge Diverter
995042	PSTN (Telecom) Line Surge Diverter

Sundry Items

There are a number of items designed to aid the installation of the Concept 4000 hardware platform.

Ordering Options

995083M	2 x 10A Relay Board (Connected strip of 8)
995082	Versatile 8 Way Relay Board (For Expanders & Control Module)
995085	1 x 2A DPDT Relay Interface
508001	Terminal blocks, 2way
508002	Terminal blocks, 8way
995910	LAN Hub Board 8way with DET+ & 0V Hub
995911	LAN Hub Board (Breakaway version)
910034	Replacement Tamper Switch Actuator for Elite Terminal (Ivory)
910034WH	Replacement Tamper Switch Actuator for Elite Terminal (White)
999002	CE Mounting Clip Pack
999005	IR Fixing Pack
999000	IR Fuse Pack
631022	Concept 4000 Programming/ Ref & installation manual
630026	Concept 4000 User Manual
990010	Swipe Card Reader
650001	2000 Magnetic Swipe card
993011	4000 Magnetic Swipe card (Programmable Site Code)

Fratech Multipath-IP®

Fratech FE900
Digital IP Receiver

Fratech products manufactured by Inner Range offer a range of advanced security communication products including GSM backup units, digital alarm receivers for Monitoring Centres and IP alarm monitoring solutions.

GSM Backup Units

FE3000 Premier

The FE3000 Premier can be used as a backup GSM / SMS alarm transmission device and SMS control device. It also provides stand-alone alarm panel functionality with its built in inputs and outputs, or will connect to any alarm panel that uses the Contact ID format for it's reporting.

FE3000 Serial

Designed primarily for use on Concept 4000 panels, the FE3000 Serial provides an economical GSM / SMS interface and also enables SMS Control of the panel.

Features:

- Comprehensive control and reporting options via SMS messaging
- Firmware upgrades can be implemented remotely or flash upgraded via on-site PC/laptop
- In built clock / calendar allows optional test reports and monthly battery testing
- Continuous PSTN voltage and current monitoring
- 32 User passwords / SMS numbers
- Earthed plug pack for increased surge Protection
- GSM and PSTN paths are data capable
- High level serial interface to Concept 3000/4000 panel provides wide ranging advanced features

SMS Control

When you use the FE3000, Premier or Serial, your mobile phone becomes a remote keypad. Use SMS for remote diagnostics, programming and control of up to 8 outputs. Configure the FE3000 to page up to 32 mobile phones with panel alarms via SMS text messages.

Your mobile phone has just become more than a means of communications, it is now a tool you can use to control and interrogate your alarm system.

SPECIFICATIONS

Physical	
Housing Dimensions	375(L) x 190(W) x 72(D) (mm)
PCB Dimensions	210(L) x 145(W) x 43(D) (mm)
Installation Environment	0° - 50°C @ 15% to 85% Relative humidity (non-condensing)
Electrical	
Input Voltage to PCB	16VAC 1.5A via supplied plug pack
Operational Current	140mA (idle)
Auxiliary Current for outputs	400mA continuous
Recommended Battery	12VDC gel type, 7.2Ah
Typical Battery Backup Time	24 to 48 hours
Min. PSTN Line Voltage	18V (on hook)
Max. PABX Line Voltage	35V
Max. PABX Current	35mA
PABX Output Power	-15dBm
Max. RF Power	2W (Power class 4, 91/263/EEC directive)
Inputs	
Zone Inputs	Zones 1-11 EOL, Zone 12 NO
Outputs	
Outputs (open collector)	12 @ 100mA (max.) each
Indicator Lamps	8

Ordering Options

998305 FE3000 Serial

998300AU FE3000 Premier

608204 FE3000 Programming Lead

994092 Serial Interface Cable to suit FE3000 units (Connection to Concept 3K/4K Panel UART)

Multipath-IP – IP Based Alarm Monitoring Technology

Fratech Multipath-IP represents the next generation of alarm monitoring technology for the security industry. Fratech Multipath-IP utilises leading edge Internet Protocol (IP) based technologies, combined with traditional alarm reporting systems to deliver a fully integrated monitoring solution.

Highlights

- Highest levels of security and redundancy with polling and multiple path IP based communications
- End-to-end redundancy on multiple polled communications paths for assurance of alarm transmission
- Compatibility with multiple IP mediums (GPRS, Ethernet, Dialup ISP)
- Full point to point, bi-directional polling
- Fast polling maintained via redundant paths even when an IP or GPRS network is unavailable
- Secure data transmission with 128 bit AES encryption
- Meets AS2201.5 class 4 and class 5 requirements for alarm transmission systems

"Multipath-IP is a more secure, simpler and cost effective alternative to GSM backup, Securitel and direct line monitoring technologies."

When connected to a Concept 4000 Control Module via high level RS232 cable, the Muiltipath IP technology can be used to control various entities within the Concept 4000 system. Arm or disarm security areas, open or lock doors and control auxillary outputs from the central station with a mouse click.

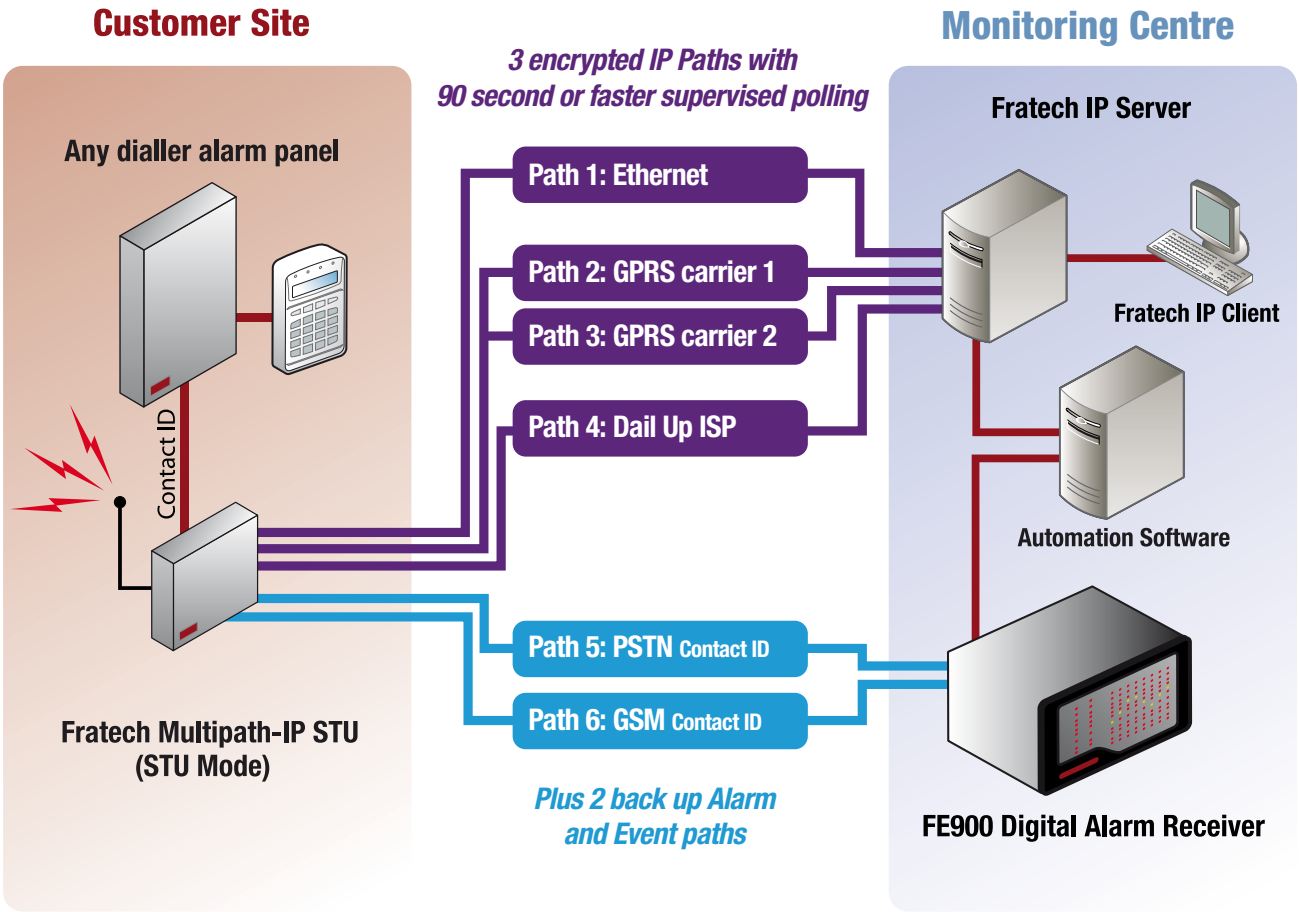
"Unprecedented levels of security and redundancy with multiple polled IP paths."

Benefits to Monitoring and Installation Companies

Fratech Multipath-IP is a simpler, more secure and cost effective alternative to GSM backup, Securitel and direct line monitoring technologies. Monitoring Centres now have a single platform with which to offer a full range of high security monitoring options.

- Provide customers the latest monitoring technology incorporating the highest level of security at affordable prices
- Simplify and rationalise monitoring technologies
- Provide a high value, low cost technology that can attract new business and increase profitability of exiting customers.

For more information or to find Multipath-IP capable Monitoring Centres, visit:
http://www.innerrange.com/Multipath-IP/



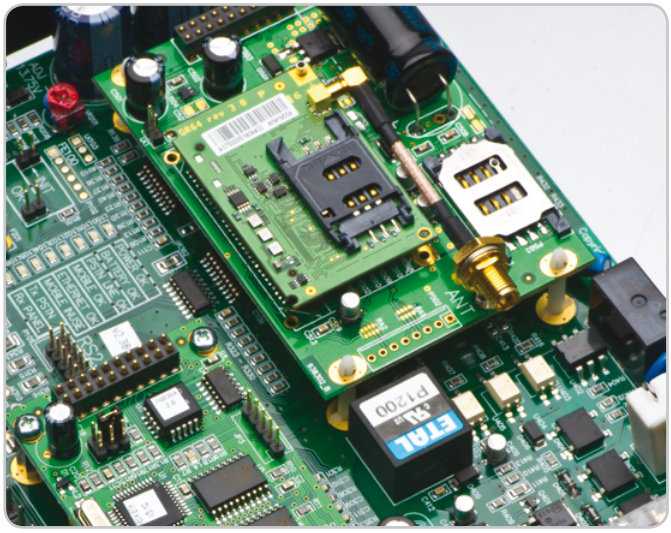
** Path 4 not offered by all Telco's*

Multipath-IP STU

The Multipath-IP STU is the field device used to connect alarm panels to the Multipath-IP network. It adds additional reporting paths, such as dual GPRS* or Ethernet* to any alarm panel that uses the Contact ID format or IRFast for its reporting. All paths are monitored and if one path fails then that failure, along with any alarms, is reported via another path.

The Multipath-IP STU maximises reliability of communications, regardless of the communication path it chooses.

* Available from participating Multipath-IP capable Monitoring Centres.



Features:

- Highest levels of security and redundancy with polling and multiple path IP based communications
- Fast polling - standard 90 second bi-directional polling, or polling for AS2201.5 class 4 & class 5 systems
- Fast polling maintained via redundant paths even when an IP or GPRS networks is unavailable
- Secure data transmission with 128 bit AES encryption
- In built clock / calendar allows optional test reports and monthly battery testing
- Continuous PSTN voltage and current monitoring
- Earthed plug pack for increased surge protection
- Plug on 10BaseT interface card
- Central Monitoring Station control of entities within a Concept 4000 system when connected via RS232 cable

SPECIFICATIONS

Physical	
Housing Dimensions	375(L) x 190(W) x 72(D) (mm)
PCB Dimensions	210(L) x 145(W) x 43(D) (mm)
Installation Environment	0° - 50°C @ 15% to 85% Relative humidity (non-condensing)
Electrical	
Input Voltage to PCB	16VAC 1.5A via supplied plug pack
Operational Current	140mA (idle)
Auxiliary Current for outputs	400mA continuous
Recommended Battery	12VDC gel type, 7.2Ah
Typical Battery Backup Time	24 to 48 hours
Min. PSTN Line Voltage	18V (on hook)
PSTN Port Surge Voltage	5kV / 10/700uS
PSTN Earthing	Yes, through supplied plug pack
Max. PABX Line Voltage	35V
Max. PABX Current	35mA
PABX Output Power	-15dBm
Max. RF Power	2W (Power class 4, 91/263/EEC directive)
Inputs	
Zone Inputs	Zones 1-11 EOL, Zone 12 NO
Outputs	
Outputs (open collector)	12 @ 100mA (max.) each
Indicator Lamps	8

Ordering options

9983040PT
Multipath IP STU, with Optus GPRS SIM & 998304PCB&K Ethernet fitted (Single SIM)

998304TEL
Multipath IP STU, with TELSTRA GPRS SIM & 998304PCB&K Ethernet fitted (Single SIM)

9983070PT
Multipath IP STU, OPTUS GPRS SIM with Vodafone Back-up (No Ethernet)

998307TEL
Multipath IP STU, TELSTRA GPRS SIM with Vodafone Back-up (No Ethernet)

9983150PT
Multipath IP STU, OPTUS GPRS SIM with Vodafone Back-up & 998304PCB&K Ethernet fitted

998315TEL
Multipath IP STU, TELSTRA GPRS SIM with Vodafone Back-up & 998304PCB&K Ethernet fitted

994092
Serial Interface Cable to suit all STU'S above (Connection to Concept 3K/4K Panel UART)

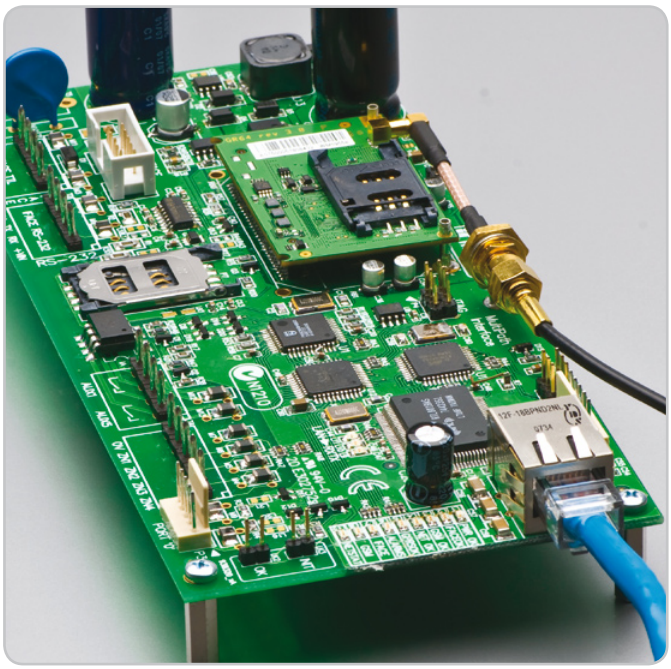
998304PCB&K
Multipath-IP Ethernet Adaptor. Requires v2.18 or higher firmware in FE3000 Premier or Multipath-IP STU

994092
Serial Interface Cable to suit Multipath STU (Connection to Concept 3K/4K Panel UART)

Multipath-IP Serial STU Securitel replacement STU

The Multipath IP Serial STU is a field device used to connect alarm panels to the Multipath-IP network. It features dual polled GPRS* + Ethernet* alarm transmission paths and RS232/TTL Interfaces, allowing simple connection to many brands of alarm panels. It also provides an RS232 high-level interface for direct connection to Inner Range Concept panels, allowing the panel to use its on-board dialler as a back up alarm transmission path. All IP paths are monitored and if one path fails then that failure along with any alarms is reported via another path.

*Available from participating Multipath-IP capable Monitoring Centres



Features:

- Physical dimensions allow easy replacement of existing STU's
- Fast polling – standard 90 second bi-directional polling, or polling for AS2201.5 class 4 & 5 systems
- Dual encrypted GPRS polled communications paths (Dual SIMM technology)
- Ethernet Port for high-speed polling and encrypted Internet alarm transmissions.
- Secure data transmission with 128 bit AES encryption
- RS232 Serial interface for "Panel – STU" connections.
- TTL level interface for "Panel – STU" connections.
- RS232 High Level Interface for Inner Range Concept Panels
- Auxiliary output for critical path fail warnings
- Input for additional tamper security.
- Central Monitoring Station control of entities within a Concept 4000 system when connected via RS232 cable

Ordering Options

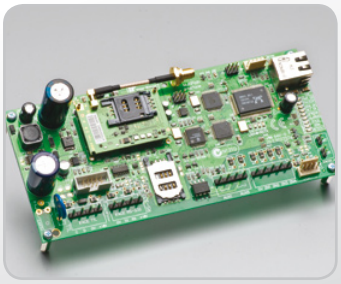
9983200PT
Multipath IP Serial STU OPTUS GPRS SIM with Vodafone Back-up & Ethernet

998320TEL
Multipath IP Serial STU TELSTRA GPRS SIM with Vodafone Back-up & Ethernet

9983240PT
Multipath IP Serial STU OPTUS GPRS SIM & Ethernet (Single SIM)

998324TEL
Multipath IP Serial STU TELSTRA GPRS SIM & Ethernet (Single SIM)

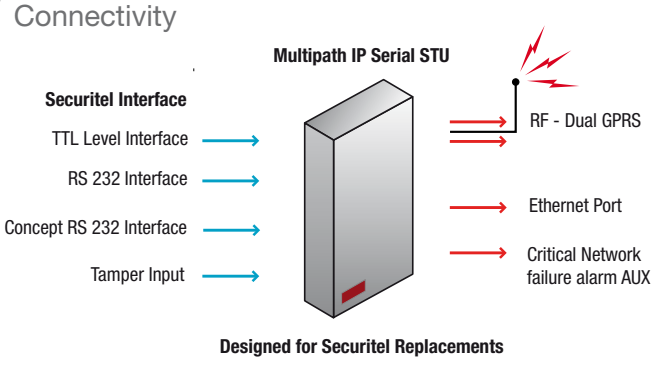
994092
Serial Interface Cable to suit all STU'S above (Connection to Concept 3K/4K Panel UART)



SPECIFICATIONS

Physical	
Size:	95x200mm
Installation Environment:	0°-40° C @ 15% to 85% Relative humidity (non-condensing)
Electrical	
Input Voltage to PCB:	10-16 VDC
Operating Current:	120mA (Typical) @ 12VDC
Standard Inputs	Tamper (Input 1 No EOL Required)
Data Inputs	TTL level interface RS232 interface Concept RS232 interface
Outputs	Critcal Network Alarm Aux 1 Ethernet: 10Base T RF GSM/GPRS Modem with dual SIM holders
Max RF Power	2Watts (Power class 4, 91/263/EEC directive)
Antenna	Gain: 3.0 dbi Connector: SMA with 2.5mt lead

Connectivity



FE900 Digital IP Receiver

As a standalone receiver, the FE900 packs a powerful punch: It can talk to automation systems via TCP/IP using its built-in Ethernet ports, and/or via its isolated RS232 ports, receive alarms in most communications formats on up to 32 PSTN lines and is well prepared to receive IP-Based Alarms via TCP/IP as this technology evolves.

The FE900 builds upon the foundation of reliability and dependability its predecessor, the FE100 was renowned for. Extending upon a strong pedigree, FE900 offers: Hot-swappable cards that auto-configure, a non-volatile 30,000 event buffer, Smart call answering, extensive self-diagnostics and very low power consumption. Line cards come with 8kV isolation and three-stage lightning protection. Line Cards also feature an advanced DSP engine which ensures reliable communications under harsh line conditions. One can also install a redundant processor card.

These impressive hardware features are merely the tip of the iceberg – What sets the FE900 further apart from its competitors is the configuration and management software tool that ships with the FE900. The client/server design of the FE900 software allows operators to configure, monitor and manage receivers remotely from any point of an IP network. For instance, an authorised operator can zoom to any Line Card on any FE900 in their system and interact with it. From one location (or indeed many locations), operators can manage FE900 receivers that are spread all around the globe.

Features:

- Remote configuring and monitoring of multiple receivers via any IP network
- Designed for future IP-Alarm functionality
- Up to 8 Line Cards, supporting a total of up to 32 PSTN lines simultaneously
- Hot-swappable, auto-configuring Line & CPU cards
- Advanced DSP engine on Line Cards ensure reliable communications with alarm panels under harsh line conditions
- Comprehensive management software to configure, monitor and maintain FE900s
- Zoom to a live view of any receiver and any card on any FE900 receiver in the network
  - Colour coded status of all FE900 receivers
  - Real-time event log - can be used as a double-check of Automation System
- Two inbuilt Ethernet ports per CPU Card
- Two isolated RS232 ports per CPU Card
- Non-volatile 30,000 event buffer
- Speaks all the main communications formats (See Communications Formats table)
- FE900 processes alarms independently of Automation System and FE900 management software
- Line cards feature 8kV isolation and three stage lightning/transient protection
- Flexible audio capture to FE900 software from any line on any FE900 receiver
- Optional redundant CPU card
- Smart call answering
- Very low power consumption
- Wide input supply range
- Extensive self diagnostic facility
- Live, fail-safe, versionable firmware updates
- Removable PSTN connector PCBs for easy installation and maintenance

SPECIFICATIONS

Physical

Width	19" (standard rack mount)
Height	4U
Depth	290mm
Installation Environment	0°C - 50°C @ 15% - 85% relative humidity (non-condensing)

Electrical

Input Voltage to PCB	8 - 35VDC
CPU Card Operational Power	<2W
Line Card Operational Power	<2W
Fuse Protection	2A (on backplane) plus polyfuse protection on each card
Low Battery Detection Voltage	Configurable. Includes alarm event generation.

Inputs/Outputs

Max. CPU Cards per Receiver	2 (Only 1 CPU Card active at any one time)
Ethernet ports per CPU	2
Isolated RS232 ports per CPU	2 with auto-switching to shared sockets
Isolated Inputs per CPU	2
Isolated Outputs per CPU	2
Receiver OK Output	Yes
Max. Line Cards per Receiver	8
PSTN Lines per Line Card	4 (Receiver supports a maximum of 32 simultaneous PSTN lines)
Line Isolation Voltage	>5kVAC RMS
CPU Event Buffer Size	>30,000 events (non-volatile)
CPU Caller ID Database	10,000 clients (non-volatile)
CPU Real Time Clock	Automatically updated by FE900 Software

COMMUNICATIONS FORMATS

Pulse Formats

10pps, 20pps or 40pps auto detected
All combinations of 1.4kHz / 2.3kHz handshakes and 1.8kHz / 1.9kHz data tones auto detected
Hex reporting digits auto supported in any pulse format

3 Digit Client Code

1 report digit, dual round verification
1 report digit, checksum verification
2 report digits (expanded), dual round verification
2 report digits (expanded), checksum verification

4 Digit Client Code

1 report digit, dual round verification
1 report digit, checksum verification
2 report digits (expanded), dual round verification
2 report digits (expanded), checksum verification
2 report digits (4 + 2 pulsed), dual round verification
2 report digits (4 + 2 pulsed), checksum verification

DTMF Formats

4 + 2 DTMF, dual round verification
4 + 2 DTMF, checksum verification
Ademco 4 + 2 Express
Ademco Fast
Ademco Fast Extended
Ademco Contact ID
Ademco 6 Digit Client Code
Inner Range IRFast DTMF with CRC

Modem Formats

Inner Range IRFast (For Concept 2000, 3000 & 4000)
SIA
XSIA(Extended SIA)
Modem II (A & B)

Additional Formats

New communications formats are constantly being added to the FE900. These are periodically released in firmware updates.

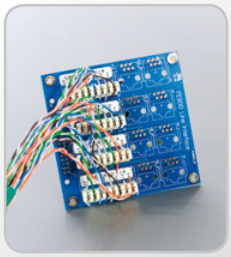
Ordering options

998920
FE900 Chassis (with one line card and one CPU card fitted)

998900
FE900 CPU Card
998900B
FE900 Emergency CPU Card
998940 FE900 Emergency CPU Card 30 day Recharge Code

998901
FE900 Line Card

998903KR
FE900 16 line connector PCB (Krone)



998903RJ
FE900 16 line connector PCB (RJ11)
998903FE
FE900 16 line connector PCB (RJ11 – FE100 pinout)

Concept Hardware / Insight Software

Insight Software

994402	Insight Professional
994402XPR	Insight Express
994402UPG	Ugrade Insight Express to Pro 994402 Insight Professional
994405	Insight Advanced Reporting Licence
994410	Insight DVR Integration module with support for 30 cameras
994411	Insight DVR Integration. Additional 10 cameras
994406	Insight PhotoID Licence
994408	Insight COM Interface Module (Read Only)
994417	Insight COM Interface Module (Write & Control)
994409	Insight Dynamic User Import Module (formerly PMS Interface Module)
994412	Insight Card Pool Module
994416	Insight Communicator
994403	Insight Multi Panel Licence
994404	Insight Multi Client Licence
994425	Insight Allow Remote Access Licence
994500BlankAU	Insight Card Enrolment Station – No reader fitted
994500WiegAU	Insight Card Enrolment Station

Control Module & Options

995001AU	Concept 4000 (32K) with plugpack in Med LPE
995002AU	Concept 4000 (128K) with plugpack in Med LPE
995001AUPS	Concept 4000 (32K) with transformer in Med LPE
995002AUPS	Concept 4000 (128K) with transformer in Med LPE
995001AUPCB&K	Concept 4000 (32K) short form kit
995002AUPCB&K	Concept 4000 (128K) short form kit

Control Module Memory Options

995015	128K Memory Upgrade Chip
995016	512K Memory Upgrade Chip
995017	32K Memory Replacement chips
995015P8	128K Memory Expansion + Programmable Site Code Support
995016P4	512K Memory Expansion + High Level Lift Interface*
993401	Custom Memory Configuration*
995101F&P	Firmware Upgrade (Micro & Firmware)
995101F	Firmware Upgrade (Firmware Only)

*Please consult Inner Range for more details prior to purchasing items marked with an asterisk.

Control Module Hardware Add-ons

995055	8 Auxiliary Output Expander Board
995082	Versatile 8 Way Relay Board (For Expanders & Control Module)
995065	1 Port Serial UART
995066	2 Port Serial UART
995068	4 Port Serial UART
995090	Ethernet UART with 1 Serial Port
995091	Multiport Ethernet UART (1 Ethernet, 3 Serial Port)
994800	IR-TransTech Connectivity Solution (Only available direct from Inner Range)
995009	PC Interface Kit (UART to Chassis Mount DB9)

Terminals

Elite Terminal

995000ML	Universal Elite Terminal (ivory)
995000MLWH	Universal Elite Terminal (white)
993000	Concept 2000/3000 Bi-Lingual Terminal

Weatherproof Terminal

995010	Weatherproof Terminal (Short form kit containing keypad and reader module PCB. Requires external power supply).
995010PCB&K	Weatherproof Terminal (PCB ONLY)

Touchscreen Terminal

995022	Touchscreen Terminal (ivory)
995022CH	Touchscreen Terminal (charcoal)
995022NOTRIM	Touchscreen Terminal (ivory) – Fitted with adhesive for custom face plate
995022CHNOTRIM	Touchscreen Terminal (charcoal) – Fitted with adhesive for custom face plate

Terminal Emulator

995021	Terminal Interface

I/O Expansion & Lift Control

Universal Expander

995004AU	Universal Expander with plug pack
995004AUPS	Universal Expander with transformer
995004PCB&K	Universal Expander short form kit

Mini Expander

995086	Mini Expander in metal enclosure
995086PCB&K	Mini Expander and accessories. short form kit
995086PS	Mini Expander with power supply in metal enclosure

Add-ons for Universal and Mini Expanders

995006	16 Zone Expander Board for Universal Expander with surge protection
995007	24 Auxiliary Expander Board for Universal Expander with surge protection
994020	Lift Interface Board for Universal Expander
995082	Versatile 8 Way Relay Board (For Expanders & Control Module)
995019	Relay Extension Cable with 6 x 20 way DIL Sockets

RF Expander

995020	RF Module in plastic enclosure

Access Control

Intelligent Four Door Access Module

994012	Intelligent Four Door Access Module
995013	Reader Expander Board for Intelligent Four Door Access Module

Two Door Access Module

995012	2 Door Access Module metal enclosure
995012PS	2 Door Access Module and power supply in metal enclosure
995012CAPS	2 Door Access Module with offline cache mode and power supply in metal enclosure
995012CAPCB&K	2 Door Access Module with offline cache mode short form kit

Single Door Access Module

995011PCB&K	1 Door Access Module short form kit

IP Four Door Access Controller

995002IPDAU	IP 4 Door Access Controller
995012PCB-01	2 Door Expansion Kit

Standalone Two Door Access Controller

995012SA	Standalone Two Door Access Controller in plastic utility enclosure. Requires external power supply
995012SAPS	Standalone Two Door Access Controller in Small Low Profile Powered Enclosure. (Contains 2A Power Supply)
993036	Port 0 Cable and IRSDAC software
995112SAUP	Conversion kit. Converts Standalone Two Door Access Controller to a Concept 4000 Cached 2 Door Access Module

IR-Secure 40 Format Readers, Cards and Fobs

994700	IR Dual-format Prox Card Reader (Defaulted for IR-Secure 40)	
IR-Secure 40 Media	*Standard*	*Registered Site*
Clamshell Prox Card	994602	994602RS
ISO Prox Card	994600	994600RS
Key Fob	994601	994601RS

Miscellaneous

Fibre Modem

995081	Fibre Modem (Multimode)
995087	Fibre Modem (Single Mode)

LAN Isolator

995080	LAN Isolator in metal enclosure
995080PCB&K	LAN Isolator short form kit

Ethernet LAN Bridge

995093	Concept LAN - Ethernet Bridge

Analogue Module

995088	Analogue Module (Voltage Mode) in metal enclosure
995088C	Analogue Module (Current Mode) in metal enclosure
995088PCB&K	Analogue Module short form kit (Voltage Mode)
995089	Serial Temperature Sensor for Analogue Module

LAN Power Supply

995050AU	LAN Power Supply in metal enclosure
995050PCB	LAN Power Supply (PCB only)

2A Power Supply

994055	Short form 2A Power Supply (PCB only)

Power Supply Accessories

560007	3A transformer
999004	16VAC 1.5A plug pack (Allows 994055 to be used as a 1A power supply)
999000	IR Fuse Pack
605049	400mm cable for direct connection to 2 Door Access Module or Mini Expander

Enclosures & Accessories

990045WH	Plastic Enclosure (Off White)
995200	Small Low Profile Enclosure
995200PE	Small Powered Low Profile Enclosure
995201	Medium Low Profile Enclosure
995201PE	Medium Powered Low Profile Enclosure
995203	Xtra Large Low Profile Enclosure
995203PE	Xtra Large Powered Low Profile Enclosure
999002	PCB Mounting Clip Pack
999005	IR Fixing Pack
926005	Universal Battery Bracket
926019	18AH Battery Bracket
990050	External Weather Resistant Terminal Housing
650003	Key Lock to suit Weather Resistant Housing
995512	2 Door Acc Mod Equipment Box

Interface Cables

993009	DB9 Interface for Laptop
993025	DB25 Interface for PC's
993026	Printer Interface Cable
993027	Modem Interface Cable
993030	Port 0 Interface Cable
993031	MODBUS Port 0 Cable
993028	LAN Ancillary Cable
608204	FE3000 Programming Lead
993035	Securitel / SpreadNet® Cable
994091	GSM Modem Interface Cable for FE2000
994092	FE3000/GSM Modem Interface Cable for FE3000
993013	C-Bus/HPM Interface Cable
993032	Dynalite Interface Cable

Surge Diverters

995040	Low Voltage AC and Battery Surge Diverter
995041	Inner Range LAN Surge Diverter
995042	PSTN (Telecom) Line Surge Diverter

Training & Demo Units

998050	General Briefcase Demo Unit

Miscellaneous

Sundries

995083M	2 x 10A Relay Board (Connected strip of 8)
995082	Versatile 8 Way Relay Board (For Expanders & Control Module)
995085	1 x 2A DPDT Relay Interface
508001	Terminal blocks 2way
508002	Terminal blocks 8way
995910	LAN Hub Board 8way with DET+ & 0V Hub
995911	LAN Hub Board (breakaway version)
910034	Replacement Tamper Switch Actuator for Elite Terminal (Ivory)
910034WH	Replacement Tamper Switch Actuator for Elite Terminal (White)
999002	CE Mounting Clip Pack
999005	IR Fixing Pack
999000	IR Fuse Pack
631022	Concept 4000 Programming Ref & Installation Manual
630026	Concept 4000 User Manual
990010	Swipe Card Reader
650001	2000 Magnetic Swipe card
993011	3000 / 4000 Magnetic Swipe card – (Programmable Site Code)

Fratech Range

Multipath-IP STU

998304OPT	Multipath IP STU, with Optus GPRS SIM & 998304PCB&K Ethernet fitted (Single SIM)
998304TEL	Multipath IP STU, with TELSTRA GPRS SIM & 998304PCB&K Ethernet fitted (Single SIM)
998307OPT	Multipath IP STU, OPTUS GPRS SIM with Vodafone Back-up (No Ethernet)
998307TEL	Multipath IP STU, TELSTRA GPRS SIM with Vodafone Back-up (No Ethernet)
998315OPT	Multipath IP STU, OPTUS GPRS SIM with Vodafone Back-up & 998304PCB&K Ethernet fitted
998315TEL	Multipath IP STU, TELSTRA GPRS SIM with Vodafone Back-up & 998304PCB&K Ethernet fitted
994092	Serial Interface Cable to suit all STU'S above (Connection to Concept 3K/4K Panel UART)
998304PCB&K	Multipath-IP Ethernet Adaptor. Requires v2.18 or higher firmware in FE3000 Premier or Multipath-IP STU
608204	FE3000 Programming Lead

Multipath-IP Serial STU (Securitel Replacement STU)

998320OPT	Multipath IP Serial STU OPTUS GPRS SIM with Vodafone Back-up & Ethernet
998320TEL	Multipath IP Serial STU TELSTRA GPRS SIM with Vodafone Back-up & Ethernet
998324OPT	Multipath IP Serial STU OPTUS GPRS SIM & Ethernet (Single SIM)
998324TEL	Multipath IP Serial STU TELSTRA GPRS SIM & Ethernet (Single SIM)
994092	Serial Interface Cable to suit all STU'S above (Connection to Concept 3K/4K Panel UART)

FE3000 GSM/IP Backup Units

998305	FE3000 Serial
998300AU	FE3000 Premier (No Ethernet)
608204	FE3000 Programming Lead
994092	Serial Interface Cable to suit all STU'S above (Connection to Concept 3K/4K Panel UART)

FE900 Digital IP Receiver

998920	FE900 Chassis (with one line card and one CPU card fitted)
998900	FE900 CPU Card
998900B	FE900 Emergency CPU Card (30 days operation from activation)
998940	FE900 Emergency CPU Card 30 day Recharge Code
998941	FE900 Upgrade Emergency CPU Card to "Full" CPU Card
998901	FE900 Line Card
998903KR	FE900 16 line connector PCB (Krone)
998903RJ	FE900 16 line connector PCB (RJ11)
998903FE	FE900 16 line connector PCB (RJ11 – FE100 pinout)

Inner Range Accredited Dealer Program

Accredited Dealers

The Inner Range Accredited Dealer Program gives Inner Range customers easy access to a choice of experienced and reputable companies for the installation and service of their intruder alarm and access control system. It is a condition of accreditation that all Accredited Dealers abide by a published Code of Practice. ***For a company to hold Accredited Dealer status, they must at all times employ at least one Factory Certified Professional.***

Factory Certified Professionals

For installations and maintenance, Inner Range strongly recommend that customers use a Factory Certified Professional Technician whose certification level suits their particular application. Certified Professionals are found at Accredited Dealers. A list of current Accredited Dealers can be found at: *http://www.innerrange.com.au/HowToBuy.cfm*
Currently, there are four levels of factory certified competency as outlined below:

Certified Technician
Basic to medium complexity Concept systems. E.g.: a house or small business.

Advanced Technician
Medium to high complexity single site Concept 4000 systems. E.g.: Home automation, larger businesses, etc.

Software Endorsed Advanced Technician
Distributed or multi-site applications of medium complexity where there is a reliance on management of software and multi-site data and/or use of Multi-tenancy.

Systems Engineer
Large, complex multi-site networked applications. E.g.: Security and access control in multi story buildings, an enterprise system spread across an entire region or internationally.

Factory Certification attaches to the individual technician and not to the employing company.
All certified technicians are issued with photo ID cards showing their level of certification and expiry date.
These ID cards should be available to be shown if requested.

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